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JANUARY 2002

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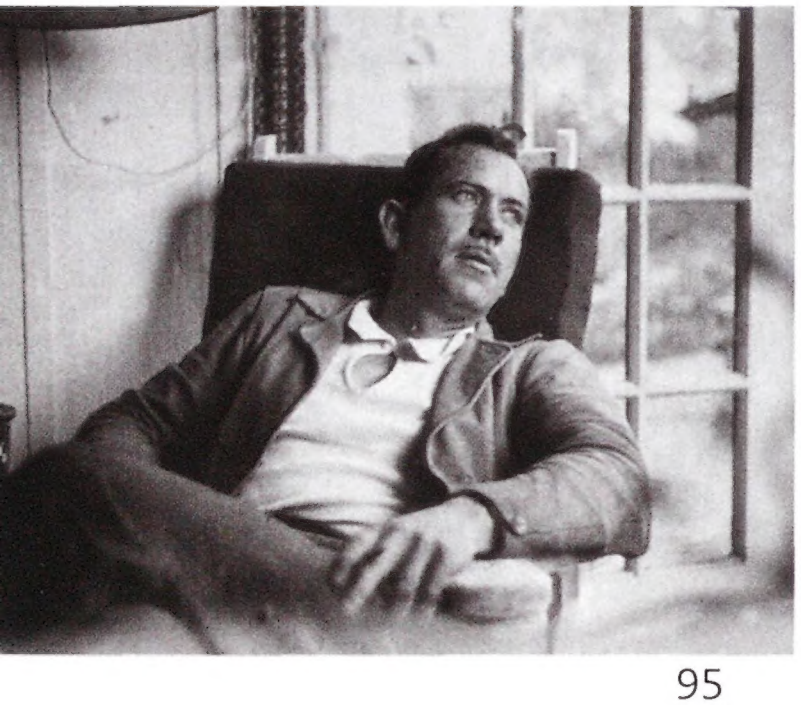

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**On the Cover:** A Bengal tiger keeps a watchful eye on things in India's Kanha National Park. ◆ PHOTOGRAPH BY THOMAS MANGELSEN/MINDEN PICTURES

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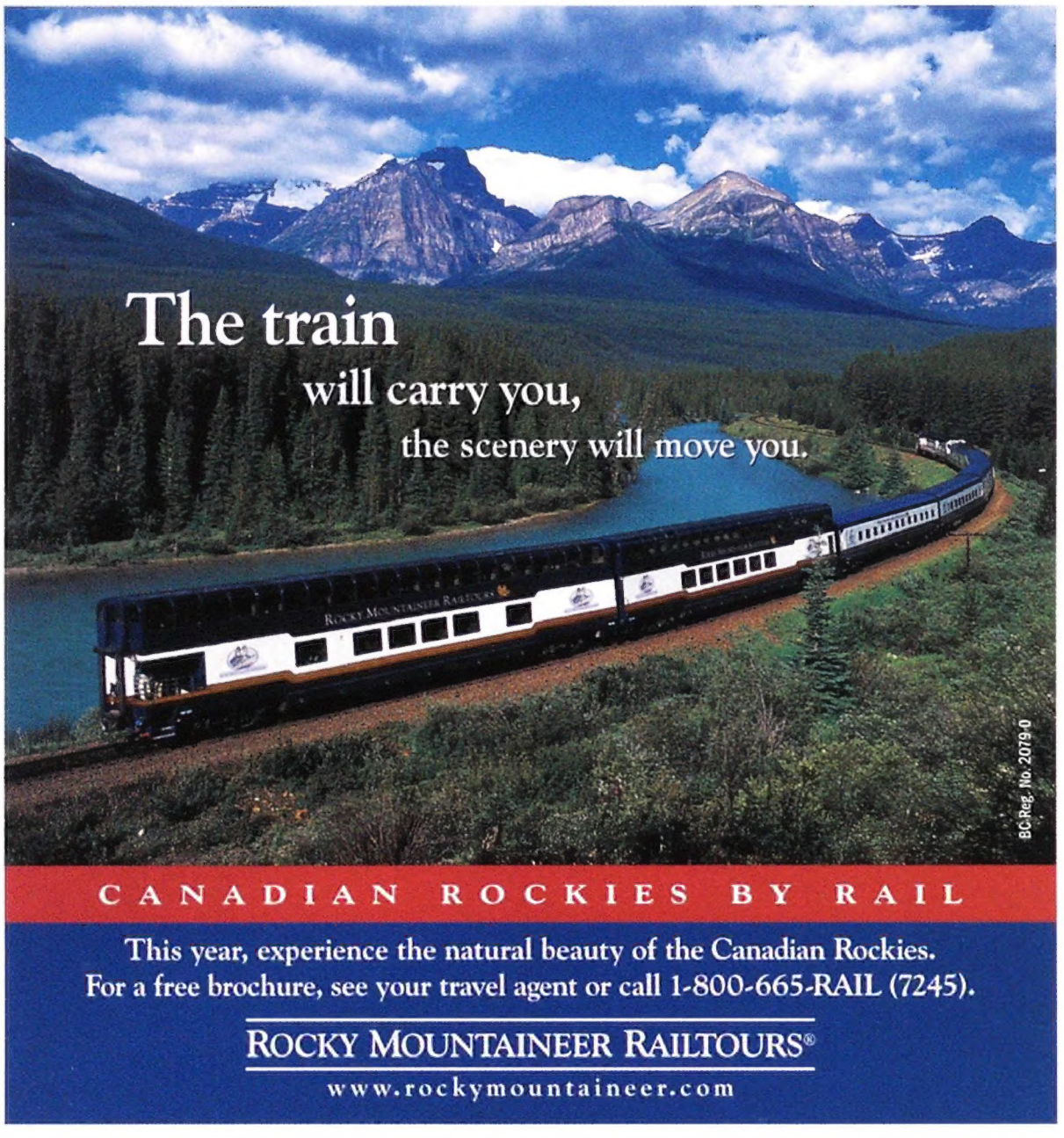
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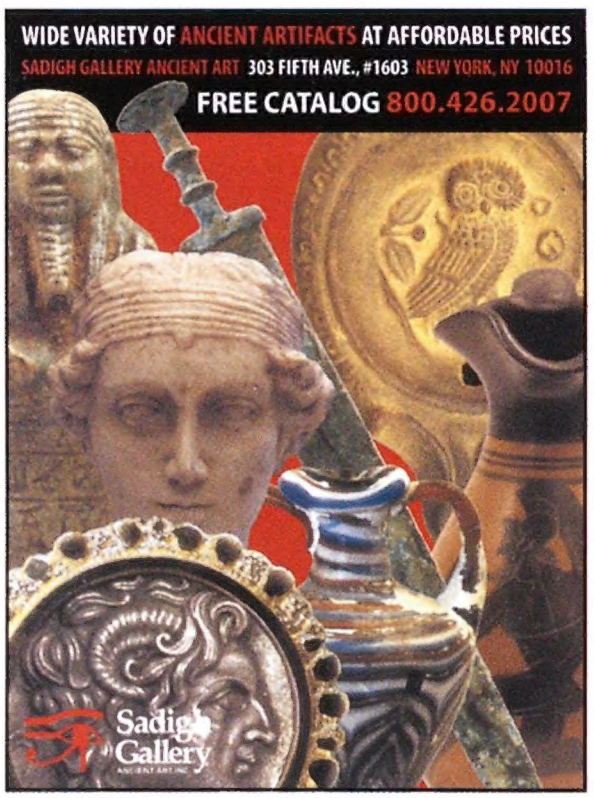
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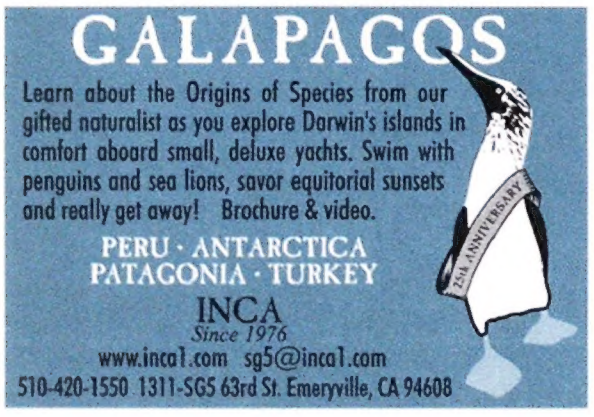
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BEHIND THE LINES

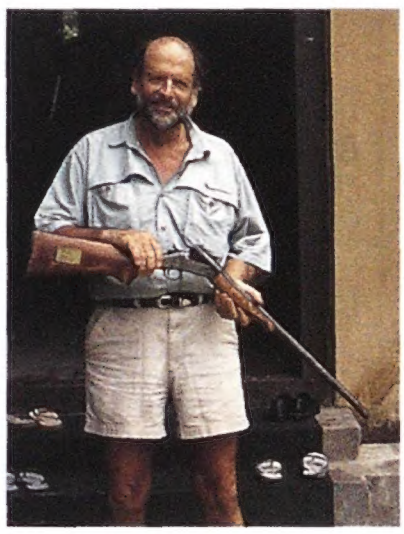
# Close Calls

## DANGER COMES WITH THE TERRITORY FOR OUR WRITERS

BY CAREY WINFREY, EDITOR

JOHN SEIDENSTICKER, WHOSE tiger story begins on page 62, is a senior curator at the Smithsonian's National Zoo in Washington, D.C. and a world-renowned expert on big cats. In 1974, the Indian government invited him to West Bengal to deal with a killer tiger. To capture it, if possible. "The problem," Seidensticker recalls, "was to locate, dart and then find a woman-killing tiger at night in a mangrove swamp and also make sure the tiger did not drown."

After tying a live steer to a tree in an area where the tiger had been seen, Seidensticker waited nearby in a cage borrowed from the Calcutta zoo. Sure enough, just after dark the tiger came and made its kill. Seidensticker shot a dart from about 30 feet away, and the startled tiger took off into the mangroves. Not sure whether the dart had tranquilized or merely angered the 300-pound creature, a young male, Seidensticker then followed in pursuit with some 50 men backing him up. Intent on the task at hand, he recalls, "I did not notice that my backup team was lagging 50 yards behind." Seidensticker had begun to fret when his flashlight beam made out a familiar shape. "It wasn't moving, so at that moment, I couldn't tell if it was heading toward me or going away." He stopped to listen but heard nothing. "I moved up a few more feet and only then discovered that the tiger was lying there, immobilized."



Seidensticker (with dart gun in Nepal in '00): Beginning to fret.

SUSAN LUMPKIN

AS THEY ENTERED AFGHANISTAN, Denis Belliveau and Frank O'Donnell, whose story about retracing Marco Polo's 13th-century route begins on page 44, were told by the mujahidin (guerrilla fighters) that they had to dress as Afghans so as not to raise suspicion among various warring factions. "When we finally left the country," says Belliveau, "and crossed the frontier into Tajikistan, the Russian border guard looked at us in amazement. In his hands were two U.S. passports with valid Tajik visas. But standing before him were two Afghans—our transformation in appearance was complete." The Russians told them that in the past 75 years only one other foreigner had crossed the border at that spot. A BBC journalist. He was later killed in Moscow during the uprising that brought Boris Yeltsin to power.

DEPARTMENT OF IRONY: WORKING ON our story about Louis Pasteur and anthrax (p. 34), Associate Editor Beth Py-Lieberman headed for the Library of Congress in search of an 1881 *London Times* account of Pasteur's famous challenge. Alas, the great research facility was closed—due to possible anthrax contamination.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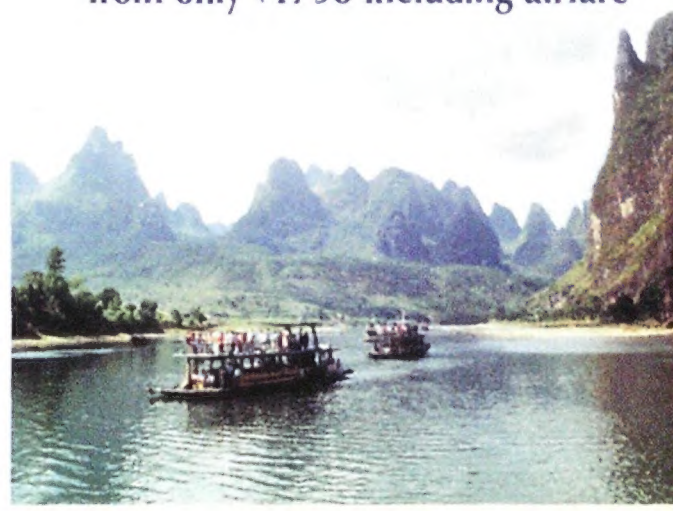

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# Sharing the Wealth

## FROM THE SECRETARY

IT BEGAN AS A SIMPLE ENOUGH NOTION IN 1996: open the attic. The characterization of the Smithsonian as the "nation's attic" is not without a sting, an attic being the space to which things are consigned when their useful time has past: the trunk of out-of-fashion clothes, the lopsided rocking chair, the baby carriage, the 78-rpm records (indeed, *any* records). But much of what's in storage at the Smithsonian is there not because it has no value or interest but because we lack the room to show it. The fact is, at any one time, the Smithsonian can display less than 2 percent of the 142 million items it owns. Think of a Super Bowl with only the quarterbacks on the field and all their teammates in the locker room.

The Smithsonian's '48 Tucker "Torpedo" draws visitors to the Blackhawk Museum in Danville, CA.

So the idea of Smithsonian Affiliations was born. Why not display the unseen items elsewhere in the country? There's no shortage of museums in America. What is in short supply is the material to fill them. Smithsonian Affiliations throws open the doors of the Institution. It establishes long-term collaborative relationships with museums and cultural organizations, and gives them access to the Smithsonian's collections and educational and outreach resources. With our enthusiastic diffusion of artifacts and programs, the Institution's service to the nation has taken a new turn—or rather, a whole set of new turns. North, south, east and west, on banners, billboards and invitations, the words "in association with the Smithsonian Institution" are appearing with increasing frequency. There are currently 92 affiliates in 30 states, the District of Columbia, Puerto Rico and Panama, and their number is on the rise. Our steadfast goal is that the Institution have a presence throughout the nation.

Some affiliates are nationally known (the High Museum of Art in Atlanta, for example) and some one day will be (the Alameda in San Antonio), but all are locally prized. They encompass an immense range of geography and interests, as a random selection from their number makes clear: Inventure Place, home of the National Inventors Hall of Fame, in Akron, Ohio; the Bisbee Mining and Historical Museum in Arizona; the Fort Peck Dam Interpretive Center and Museum in Montana; the Kona Historical Society in Hawaii; the Autry Museum of Western Heritage in Los Angeles; the Historical Society of Western Pennsylvania in Pittsburgh; the Miami Museum of Science in Florida; the National Jazz Museum in Harlem. Each affiliation represents a saga of cooperation and enrichment.

Lately there's been a benefit to the program that we did not initially foresee: it is encouraging broader cultural alliances. In the first such effort, 26 affiliates with interests in Latino culture will share research and collaborate on exhibitions, performances, lecture series and other programs. Additional alliances are in the works, developed around Native American, Asian Pacific and African-American cultures. Institutions that signed on originally to work with the Smithsonian are discovering how beneficial they can be to one another.

I urge you to view the full roster of affiliates on the Web site, affiliations.si.edu, for the program represents a new way of looking at America, through a grid of interests as extensive as the contours of the country. The universe of affiliates defines the things communities and regions have felt compelled to celebrate and preserve. Here is a nation of relentless intellectual curiosity. It abounds with museums, historical societies and cultural organizations, and takes nothing for granted. The interests are often locally born, but they have in common the large impulse to connect to a vital portion of the past and say "This, too, matters."

The fresh air of invention that flows through these scores of far-flung affiliates is finding its way back to the Smithsonian, and the dust it has blown from the nation's attic won't be settling any time soon.

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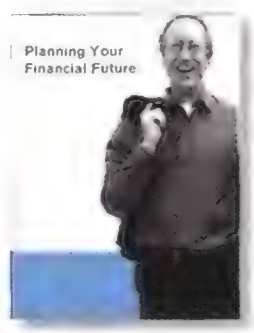


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"Doctor Watson" is not a real doctor, but a fictional character portrayed by an actor. Any similarity to any real person is unintended and coincidental.

### TURNING POINT

HOW INAPPROPRIATE TO RUN RUDY Chelminski's November 2001 puff piece on Philippe Petit after what happened to the World Trade Center. Petit's lawless lark put the lives of dozens of police and emergency workers at risk—a Petit act of terrorism in its own right.

For Petit to claim his artless stunt had anything to do toward public acceptance of the towers goes beyond arrogance into the realm of the delusional. Time for a reality check, Philippe: the World Trade Center built your reputation, not the other way around. The people of New York dearly miss the twin towers. You, we can do without.

*Michael Balton*
*Brooklyn, New York*

I WAS AN EYEWITNESS TO PETIT'S tightrope walk at the World Trade Center. A recent college grad, I had decided to leave my hometown and take my chances in the Big Apple. With only $300 in capital, I had felt increasingly apprehensive during the three weeks it took to find work.

I remember letting myself into my new office, the first to arrive, with $15 in my purse and five days to go until payday. I looked out the window and could hardly believe my eyes. A couple of blocks to the west, but about 80 stories higher, a tightrope walker was insouciantly bouncing up and down on a cable between the twin towers.

All my mundane fears and anxieties vanished. Here was a brilliant omen and an exhortation to always be daring. Mr. Petit's act made me a different person for seeing it. If the towers and all the precious life in them are now cruelly torn from us, his performance so long ago becomes even more metaphysical, not less.

*Carol Ruth Axelrod*
*McLean, Virginia*

### OLD SNEAKERS NEVER DIE

ED LEIBOWITZ'S ARTICLE WILL FASCInate all "Cons" aficionados. However, he failed to mention Malden, Massachusetts. It was here in 1853 that Elisha Converse established the Boston Rubber Shoe Company. Mr. Converse also gave the city its magnificent library, dedicated to the memory of Frank E. Converse. The son and heir of Elisha and Mary Converse, he was tragically slain in a bank holdup at the age of 17.

*Paul M. Rosenberg*
*Delray Beach, Florida*

### GETTING IN DEEP

WHEN I READ, "HIS RATHER PECUliar task at 2 A.M. this recent Thursday is to spray antifreeze on the ocean floor," I had to read it again and again. What does that mean in terms of sea life? It makes me remember when I was in high school and fellow students drank antifreeze thinking it was alcohol and were dead by morning.

*B. L. Wentworth*
*Portsmouth, New Hampshire*

**The antifreeze used is glycol—quite different from the stuff we put in our cars—and is not harmful to marine life. Ed.**

### HALLOWED GROUND

WHAT A THRILL TO FIND LUCRETIA Bingham's article on the investigation of slave grave sites, especially because we believe that the VENTURE mentioned is Venture Smith, at one time owned by the family from which my husband descends. Venture, the son of an African prince, was first sold to a Robertson Mumford, then to Thomas Stanton II, then to Col. Oliver Smith. An amazing individual, he purchased his own freedom and afterwards, one by one, the freedom of his wife and children. On the Stanton-Davis farm is a 422-pound boulder, which tradition says Venture lifted into place in a stone wall after three other men together could not. Last August, descendants of Venture joined with 150 descendants of Thomas and Anna Lord Stanton as the Venture Stone was unveiled and the story of Venture was recalled.

*Louise M. Hawley*
*Lillian, Alabama*

Please send letters for this column to Letters Editor, SMITHSONIAN, MRC 951, Washington, D.C. 20560-0951 or to LettersEd@simag.si.edu. Letters should include your telephone number and address and may be edited for clarity and length. Send queries and comments about the Smithsonian Institution to info@info.si.edu or to VIARC, Public Inquiry Mail Service, Washington, D.C. 20560-0010.

"ALONG WITH ALL THE GREAT MEMORIES HAS COME SOMETHING I THOUGHT I'D NEVER EXPERIENCE—THE PAIN OF OSTEOARTHRITIS."

—DOROTHY HAMILL

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People with allergic reactions, such as asthma, to aspirin or other arthritis medicines should not take VIOXX. In rare cases, serious stomach problems, such as bleeding, can occur without warning.

Tell your doctor if you have liver or kidney problems, or are pregnant. Also, VIOXX should not be used by women in late pregnancy.

VIOXX has been extensively studied in large clinical trials. Commonly reported side effects included upper respiratory infection, diarrhea, nausea and high blood pressure. Report any unusual symptoms to your doctor.

**ASK YOUR DOCTOR OR HEALTHCARE PROFESSIONAL ABOUT VIOXX.**

Call 1-800-MERCK-30 for more information, or visit **vioxx.com**. Please see important additional information on the next page.

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You should read this information before you start taking VIOXX.* Also, read the leaflet each time you refill your prescription, in case any information has changed. This leaflet provides only a summary of certain information about VIOXX. Your doctor or pharmacist can give you an additional leaflet that is written for health professionals that contains more complete information. This leaflet does not take the place of careful discussions with your doctor. You and your doctor should discuss VIOXX when you start taking your medicine and at regular checkups.

**What is VIOXX?**

VIOXX is a nonsteroidal anti-inflammatory drug (NSAID) that is used to reduce pain and inflammation (swelling and soreness). VIOXX is available as a tablet or a liquid that you take by mouth.

VIOXX is a medicine for:
- relief of osteoarthritis (the arthritis caused by age-related "wear and tear" on bones and joints)
- management of acute pain in adults (like the short-term pain you can get after a dental or surgical operation)
- treatment of menstrual pain (pain during women's monthly periods).

**Who should not take VIOXX?**

Do not take VIOXX if you:
- have had an allergic reaction such as asthma attacks, hives, or swelling of the throat and face to aspirin or other NSAIDs (for example, ibuprofen and naproxen).
- have had an allergic reaction to rofecoxib, which is the active ingredient of VIOXX, or to any of its inactive ingredients. (See Inactive Ingredients at the end of this leaflet.)

**What should I tell my doctor before and during treatment with VIOXX?**

Tell your doctor if you are:
- pregnant or plan to become pregnant. VIOXX should not be used in late pregnancy because it may harm the fetus.
- breast-feeding or plan to breast-feed. It is not known whether VIOXX is passed through to human breast milk and what its effects could be on a nursing child.

Tell your doctor if you have:
- kidney disease
- liver disease
- heart failure
- high blood pressure
- had an allergic reaction to aspirin or other NSAIDs
- had a serious stomach problem in the past.

Tell your doctor about:
- any other medical problems or allergies you have now or have had.
- all medicines that you are taking or plan to take, even those you can get without a prescription.

Tell your doctor if you develop:
- ulcer or bleeding symptoms (for instance, stomach burning or black stools, which are signs of possible stomach bleeding).
- unexplained weight gain or swelling of the feet and/or legs.
- skin rash or allergic reactions. If you have a severe allergic reaction, get medical help right away.

**How should I take VIOXX?**

VIOXX should be taken once a day. Your doctor will decide what dose of VIOXX you should take and how long you should take it. You may take VIOXX with or without food.

**Can I take VIOXX with other medicines?**

Tell your doctor about all of the other medicines you are taking or plan to take while you are on VIOXX, even other medicines that you can get without a prescription. Your doctor may want to check that your medicines are working properly together if you are taking other medicines such as:
- methotrexate (a medicine used to suppress the immune system)
- warfarin (a blood thinner)
- rifampin (an antibiotic)
- ACE inhibitors (medicines used for high blood pressure and heart failure)
- lithium (a medicine used to treat a certain type of depression).

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**What are the possible side effects of VIOXX?**

Serious but rare side effects that have been reported in patients taking VIOXX and/or related medicines have included:

- Serious stomach problems, such as stomach and intestinal bleeding, can occur with or without warning symptoms. These problems, if severe, could lead to hospitalization or death. Although this happens rarely, you should watch for signs that you may have this serious side effect and tell your doctor right away.
- Serious allergic reactions including swelling of the face, lips, tongue, and/or throat which may cause difficulty breathing or swallowing occur rarely but may require treatment right away. Severe skin reactions have also been reported.
- Serious kidney problems occur rarely, including acute kidney failure and worsening of chronic kidney failure.
- Severe liver problems, including hepatitis and jaundice, occur rarely in patients taking NSAIDs, including VIOXX. Tell your doctor if you develop symptoms of liver problems. These include nausea, tiredness, itching, tenderness in the right upper abdomen, and flu-like symptoms.

In addition, the following side effects have been reported: anxiety, confusion, hair loss, hallucinations, increased levels of potassium in the blood, low blood cell counts, tingling sensation, unusual headache with stiff neck (aseptic meningitis).

More common, but less serious side effects reported with VIOXX have included the following:

Upper and/or lower respiratory infection and/or inflammation
Headache
Dizziness
Diarrhea
Nausea and/or vomiting
Heartburn, stomach pain and upset
Swelling of the legs and/or feet
High blood pressure
Back pain
Tiredness
Urinary tract infection.

These side effects were reported in at least 2% of osteoarthritis patients receiving daily doses of VIOXX 12.5 mg to 25 mg in clinical studies.

The side effects described above do not include all of the side effects reported with VIOXX. Do not rely on this leaflet alone for information about side effects. Your doctor or pharmacist can discuss with you a more complete list of side effects. Any time you have a medical problem you think may be related to VIOXX, talk to your doctor.

**What else can I do to help manage my osteoarthritis pain?**

Talk to your doctor about:
- Exercise
- Controlling your weight
- Hot and cold treatments
- Using support devices.

**What else should I know about VIOXX?**

This leaflet provides a summary of certain information about VIOXX. If you have any questions or concerns about VIOXX, osteoarthritis or pain, talk to your health professional. Your pharmacist can give you an additional leaflet that is written for health professionals.

Do not share VIOXX with anyone else; it was prescribed only for you. It should be taken only for the condition for which it was prescribed.

Keep VIOXX and all medicines out of the reach of children.

Inactive Ingredients:

Oral suspension: citric acid (monohydrate), sodium citrate (dihydrate), sorbitol solution, strawberry flavor, xanthan gum, sodium methylparaben, sodium propylparaben.

Tablets: croscarmellose sodium, hydroxypropyl cellulose, lactose, magnesium stearate, microcrystalline cellulose, and yellow ferric oxide.

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# Spiders in the Sky

FOR SIX MONTHS IN 1930, LEWIS WICKES Hine was on top of the world. Literally. Commissioned to document the construction of the Empire State Building, from May to November of that year the 56-year-old photographer clambered up stairs, perched atop steel beams and even dangled a quarter-mile over the streets of New York in a specially built box to photograph "skyboys" at work. America was building skyscrapers, and the Empire State Building was going to be the tallest of them all. Pedestrians stopped on sidewalks to gawk at the riveters, bricklayers, welders and ironworkers who carried out their tasks silhouetted far above them. "Like little spiders they toiled, spinning a fabric of steel against the sky," the *Literary Digest* noted in May 1931, shortly after the building opened.

Although Hine claimed to avoid daredevil exploits, his work repeatedly put him in dangerous situations. As a younger man, he had disguised himself to gain entrance into factories to expose the horrific working conditions children suffered in the years before child labor laws. His photographs of mines, sweatshops and slum housing provided graphic evidence of the need for social reform. In 1919 Hine joined the American Red Cross to document the human costs of war

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Hine was first a teacher.

by photographing refugees throughout Europe. Upon his return, he turned his focus to more positive subjects but maintained an interest in the world's workers. Judith M. Gutman, writer and Hine biographer, says, "When you follow the trajectory of Lewis Hine's work, the Empire State Building photographs lead to the core of his philosophy: from women and children as victims of machines in factories and sweatshops, to Man overpowering them in the Empire State Building pictures, to finally, in his work for the National Research Project of the WPA, men and women working in harmony with machines. Hine saw a relationship between the men who can and do construct their world by seeing art in what people do and in how people construct."

The men depicted in *Icarus Atop Empire State Building* (previous page) and *Two Workers Inspecting Steel* (right) are among the thousands of unidentified laborers who built the "Eighth Wonder of the World" in record time. Rising at a rate of four and a half stories a week, the building took just one year and 45 days to complete. President Herbert Hoover switched on the lights from Washington, D.C. at the official opening on May 1, 1931.

Boasting an 80-mile view from the 86th-floor observatory, the Empire State Building soars to 102 stories and towers 1,250 feet above the streets of Manhattan. It was the tallest building in the world for over 40 years until it was surpassed by the World Trade Center's twin towers. Today the Petronas Towers in Kuala Lumpur claim the world's-tallest title, followed by the Sears Tower in Chicago and the Jin Mao Building in Shanghai. But the Empire State Building retains its power over us, just as the pride and bravado that Hine captured still reverberate. "*Icarus* is tremendous for what it says about Lewis Hine," says Gutman. "The sense of the future is so glorious. Hine was struggling to make a living, and yet remained optimistic."

It wasn't easy. The stock market had crashed and the country was sliding into the Depression. In the succeeding years, Lewis Hine received fewer and fewer commissions. He died, impoverished, on November 4, 1940, at age 66.

In his 1932 pictorial celebration of the American laborer, *Men at Work*, Hine wrote, "Cities do not build themselves, machines cannot make machines, unless back of them all are the brains and toil of men . . . the more you see of modern machines, the more may you, too, respect the men who make them and manipulate them." And we still do.

Inconceivably, the Empire State Building is once again the tallest building on the New York skyline. But what images would Lewis Hine's camera capture today? A diligent office worker at the computer, a flight attendant giving safety instructions, a courageous firefighter responding to an alarm? Yes, undoubtedly. *—Leigh Martinez Wright*

"Some of them are heroes," Hine wrote in *Men at Work*; "all of them persons it is a privilege to know." He took more than 1,000 photographs of the Empire State Building's construction.

GEORGE EASTMAN HOUSE; NEW YORK PUBLIC LIBRARY/ART RESOURCE, NY

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PHENOMENA & CURIOSITIES

# Dragonfly Dramas

## DESERT WHITETAILS AND FLAME SKIMMERS CAVORT IN THE SINKHOLES OF NEW MEXICO'S BITTER LAKE REFUGE

BY JAKE PAGE

"GOMPHID!" SOMEONE SHOUTED, AND THE LITTLE THING with the gleaming fuselage hovered, then sped away. I was standing on the whitish gypsum-rich hardpan that passes for soil in the desert about 15 miles north of Roswell, New Mexico. The air around me was filled with mostly unidentified flying objects.

I now knew that this yellow-and-black creature was a *Gomphid*, a genus of dragonfly. But many of the dozens of other Odonata, the general scientific name for dragonflies and damselflies, which flew aerial gymnastics around me, remain nameless. This particular location—the Bitter Lake National Wildlife Refuge—hosts a great variety of these curious creatures.

My expert guide, Robert R. Larsen, is a well-built man who carries a big white net as comfortably as many men carry a briefcase. By training a botanical illustrator and by preference a biological "investigator," Larsen was the scientist to whom the managers of the Bitter Lake National Wildlife Refuge turned when they identified an unusually large number of Odonata species helicoptering around the sinkholes of the refuge in 1998.

Clockwise from top left: *Argia alberta*, *Libellula saturata* (flame skimmer), *Libellula subornata* (desert whitetail) and *Erythrodiplax berenice*.

With funds from the state Game and Fish Department, Larsen—a resident of Roswell who had been analyzing the plant life of the refuge—netted more than 50 species of dragonfly and some 30 species of damselfly. They included the largest dragonfly found in the United States (*Anax walsinghami*) and one of the nation's smallest damselflies (*Ischnura hastata*). An easy way to distinguish between a dragonfly and a damselfly is to observe the wings: the rear, or posterior, pair of dragonfly wings are broader than the front, or anterior, pair, while both sets of a damselfly's wings are essentially equal in size.

Other distinguishing characteristics include the eyes of the damselfly, which are on opposite sides of its head, while dragonfly eyes are typically closer together, sometimes even connected. These bulging and usually colorful organs have up to 30,000 facets. Both creatures, however, enjoy expanded peripheral vision, a formidable feature for a predator, which both dragonflies and damselflies become early on in their lives.

"I'm really glad the larvae aren't huge, or that I'm not really small," said Karen Gaines, a graduate student at the University of New Mexico who has been studying Odonata larvae at the refuge. Most dragonfly larvae, which are aquatic for one to two years, are utterly insatiable, eating everything they come across, including tadpoles, fish, and mosquito and other insect larvae. They even eat their own siblings.

Eventually, the larva climbs out of the water; its outer "skin," or exoskeleton, splits open, it pulls its telescoped abdomen out of the casing and it gradually extends to full length. Within one to two hours, the wings clear, dry out and open up. After its wings harden, over the course of several hours to several days, the creature will become a remarkable aerialist. Some species can fly up to 35 miles per hour. Their wings work independently, so they can hover and change direction instantaneously. Some species are migratory and, with the wind's help, may travel hundreds of miles.

Adult life is relatively brief, typically a matter of weeks, though some species can live for as long as a year. The time is spent voraciously feeding on mosquitoes,

LEFT: JOHN C. ABBOTT/UNIVERSITY OF TEXAS, AUSTIN (2); RIGHT: R.A. BEHRSTOCK (2)

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assorted moths and butterflies, and mating, a complex affair that turns a pair into an acrobatic and often airborne pretzel. Larsen reports seeing a large dragonfly carry off a minnow, a sight so remarkable that other scientists have questioned him on it. While I was standing right next to her, Karen Gaines swished her net in the air and caught a *Gomphus militaris* with the wing of a damselfly still hanging from its mouth. (Additional excellent detail about the biology of Odonata is covered in *Dragonflies of the World* by Jill Silsby, a new book published by Smithsonian Institution Press.)

So why are there so many Odonata here? At first glance, their presence seems unlikely. After all, Bitter Lake lies at the northern edge of the Chihuahuan Desert, a refuge known mostly for its birdlife, especially its spectacular winter flocks of snow geese and sandhill cranes. It is a flat landscape lying west of a long low ridge called Comanche Hill. The Pecos River runs along the ridge, and the refuge itself contains many lakes left over when the river took a new course. The alkaline lakes for which the refuge is named are indeed bitter, making it the kind of place Louis L'Amour heroes steer clear of.

Amateur biologist Robert Larsen discovered that the sinkholes of New Mexico's Bitter Lake refuge harbor about 90 species of Odonata.

Right where the Chihuahuan Desert meets the shortgrass prairie, Larsen told me, is an extremely diverse habitat for plant species. In addition to freshwater sloughs, ponds, marshes, springs, ditches and a half-mile-long stream known as the Lost River, the refuge contains more than 60 sinkholes. This is ideal habitat for dragonflies.

Sinkholes are just as they sound—places where soluble bedrock dissolves, creating cavities or holes in the surface. Groundwater then often fills the hole. The process is typically slow, but local legend has it that one of the refuge's sinkholes formed overnight beneath a parked bulldozer. Some sinkholes here are but a few feet across, though one is large enough—about an acre—to be called (with a bit of exaggeration) Lake St. Francis, 70 feet deep with beautiful blue and Caribbean-green water. These sinkholes have become aquatic "islands" in this arid desert habitat.

Sinkhole conditions differ a great deal. Some have steep, naked gypsum sides; others have reeds and grasses that grow right up to the water's edge. In some sinkholes, the water is so saline that it supports red and green algae blooms. Other sinkholes are saltier than seawater and invite species of dragonflies and damselflies usually found in estuaries, although the nearest seashore is a thousand miles away. The unique blend of conditions in each sinkhole creates entirely different ecosystems, even though one sinkhole may be only ten feet from another. As a result, each sinkhole, Gaines explained, seems to have its own special array of Odonata, and some species breed only in a single sinkhole. (Sinkholes also host the only known populations of certain other animal species, such as the last genetically pure species of the extraordinarily salt-tolerant Pecos pupfish and certain springsnails and amphipods.) "It's a natural outdoor laboratory," Gaines said.

She keeps track of this confusing and colorful aerial menagerie with a little biological sleuthing. Gaines regularly places little ladders of wire mesh leading from the edge of sinkholes into the water. Because Odonata leave their larval casing on the ladder as they crawl out, she can identify which species breed in the Bitter Lake sinkholes and which migrate here after breeding elsewhere.

Nearby Roswell may be a mecca for UFOs, but the dedicated scientists here at Bitter Lake have a pretty good handle on what's flying around. Already, I can spot the fluttering flight of the desert whitetail (*Libellula subornata*) and the bright red body of the flame skimmer (*L. saturata*). I was struck by how much these Odonata folk sounded like bird-watchers, singing out the name of a dragonfly they see whizzing by for but an instant. Indeed, the common names of these creatures are just as exciting as bird names—or more so.

After all, where's the poetry in spotting a crow or a snipe? But imagine spotting an Eastern amberwing, a seaside dragonlet or a Halloween pennant during a single outing at your neighborhood pond. And if your life list included the Comanche skimmer, the desert forktail and the black saddle bags, wouldn't your chest swell with pride?

SUSANNE PAGE

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Tumbleweeds, big sky and the open road embody the romantic ideal of the American West. But in fact tumbleweeds are a symptom of the intensive livestock grazing that has allowed invasive weeds to muscle out native plants. The aliens, especially cheatgrass, cause wildfires to burn hotter and more frequently, reducing cover for small mammals, which are the primary diet of local birds of prey here in southwestern Idaho's Snake River Valley. Photographer Glenn Oakley has been living and working in Idaho for more than 20 years.

# Martin as Muse

ON JANUARY 15, MARTIN LUTHER KING, JR., would have been 73 years old. His assassination April 4, 1968, sparked an outpouring of emotions around the world. For artists, those emotions materialized in a torrent of acrylics, oils, ceramics, ink and watercolors. More than 30 years later, the civil rights leader's vision remains an inspiration for artists the world over.

AROUND THE MALL

In 1998 independent museum exhibition developer Gary Chassman began to identify art created in response to King's life and legacy. "I was struck by the quantity and variety of the works," he says, "and I became committed to presenting them in a book and exhibit as a tool for education." The result is "In the Spirit of Martin: The Living Legacy of Dr. Martin Luther King, Jr.," an exhibition pro-

JOHN WILSON

# KING'S ROAD FINLAND

The King's Road is the historical route, dating back to the 13th century, between the old northern capitals. The King's Road passes along the entire Finnish Southern Coast, and it formed an important connection between the powerful kingdoms of Sweden and Russia. The King's Road is a remarkable testament to history: old stone churches, iron mills, powerful estates and other unique sites. The Vikings were the original users of this road from 800-1050 on their way east.

*On the King's Road, medieval Turku Castle is open for visitors.*

The King's messengers and postmen on foot or on horseback would deliver urgent messages from Stockholm to Turku and St. Petersburg by using this ancient route in the 13th century. In those days, the road also linked the venerable castles of Turku and Vyborg. In the mid-14th century, the King's Road became an artery road, along which manors, farmhouses, inns and taverns were built. The manor houses were owned by mighty noble families who provided overnight accommodations for Swedish Kings and Russian Czars alike. In the 18th century, kings, czars, soldiers, bishops, artists and merchants in horse-driven carriages traveled between the east and west. The oldest towns along the Finland King's Road are Turku (founded in 1229 and a former capital) and Porvoo (founded in 1346). Helsinki, the focal point of the King's Road, was founded in 1550.

*Historical celebration at Suomenlinna Fortress Island, entrance to Helsinki's spectacular harbor.*

Photos: Finnish Tourist Board

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duced by Chassman's company, Verve Editions, and coordinated by the Smithsonian Institution Traveling Exhibition Service.

Featuring 123 works by about as many different artists, the show opens January 13 at the Charles H. Wright Museum of African American History in Detroit. A project of impressive scope and diversity, the exhibition includes works of prominent artists such as Romare Bearden, Elizabeth Catlett, Norman Rockwell and Jacob Lawrence alongside those of the emerging and self-taught. The art—sculptures, collages, paintings, prints, textiles and woodcuts—is paired with excerpts from literature and historical accounts to underscore the influence of King's achievements.

John Wilson's 1981 charcoal drawing, *Study for Martin Luther King, Jr. Monument* (previous page), was a preliminary sketch for the bronze sculpture of King that now stands in the Rotunda of the U.S. Capitol. It evokes a fragility and vulnerability not often seen in depictions of the activist, a man known for his compelling oratory. "I wasn't concerned with getting a photographic likeness," says Wilson, "but rather a universal significance. I wanted people to be moved by the sense of this man's connection to humanity."

A stately, more reverential likeness appears in the colorful quilt *Dream 2: King and the Sisterhood* by Faith Ringgold. In it, she depicts King surrounded by women who were vital to the civil rights struggle. That each artist brings his or her own unique perspective to the various renderings inspired by King is the strength of this exhibition.

A companion book, which contains 50 additional works not in the exhibition, is due this month from Tinwood Books. The show is in Detroit through July 28, then goes to Miami, Minneapolis, Brooklyn, Memphis and Montgomery before closing in March 2004. —*Angela M. Pleasants*

"We have to educate people to have a passion to conserve plants," says Kim (with a moth orchid he rooted on a wood basket).

## Orchid Meister

### TO THE BLOSSOM BORN

STUDYING ORCHIDS IS NOT FOR THE faint of heart. Smithsonian horticulturist Cheyenne Kim recalls surprising a slumbering 25-foot anaconda while doing fieldwork in a Brazilian jungle in 1998. "It was blocking our way, so my colleague threw a rotten log at what he thought was the tail, but it was the head." The snake reared its head ready to strike the nearest trespasser, who happened to be Kim taking a picture. "I'm still shaking," he says today.

Kim, 60, not only got away unscathed but managed to gather valuable knowledge about orchids and bring home scores of rare specimens, compliments of Brazilian environmentalists.

As the Smithsonian's orchid specialist, Kim has gone to Brazil, a country hospitable to a wide variety of the plants, four times to study these astonishingly beautiful and diverse flowers. They grow at sea level to as high as 14,000 feet, in hot and cool, and moist and dry climates. Their exotic blooms can be as small as a fingertip or as big as a dinner plate. One species spikes four feet out of a sand dune while another grows happily on volcanic rock. Because collecting is discouraged or prohibited by most governments, Kim photographs the rarest finds. The plants often fall prey to deforestation or to poachers who sell them on the black market. "They bring the orchids out of that very special natural environment which man can't duplicate exactly, and 90 percent of them die," says Kim. Of the more than 30,000 different species in the world, the Smithsonian collection includes about 750 (some 7,500 plants in all), which Kim and other Institution horticulturists propagate in greenhouses a few miles from the Mall.

From January 19 to April 8, orchid lovers will have an opportunity to view many of the Smithsonian's species, as well as others, at the Smithsonian and U.S. Botanic Garden's annual orchid show in Washington, D.C. "It's beautiful and also very educational," Kim says. "You can learn about the different varieties and take classes."

In addition to tending the Institution's orchids, Kim also creates lush floral arrangements for the Sackler Gallery of Asian art. Once or twice a week, through a special endowment from museum benefactor Else Sackler, he deftly manipulates flowers, vines, berries and other flora into a striking profusion of color for the stark granite lobby. Trained in ikebana, the characteristically spare art of Japanese flower arranging, Kim, who was born in Japan of Chinese and Korean parentage, discovered to his dismay that most Americans prefer "big bouquets instead of one or two flowers in a vase." Before coming to the Smithsonian, he tried to make a living from his ikebana skills. "But people said, 'What! You charge that much for three flowers?' They didn't get it." At the Smithsonian, Kim's displays of live orchids rooted on tree ferns, bark or other natural mediums rival ikebana's artistry, their blooms

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brightening niches and entryways at the various museums.

Passionate about plants since he was a child, Kim cites the Asian tradition of placing several objects—a musical instrument, abacus or book, for instance—before a baby. The object the infant picks, it is believed, suggests his future profession.

"I picked a paintbrush," Kim says, smiling. Pointing proudly to his latest colorful creation in the lobby of the Sackler, he adds, "And this is my canvas." —*Michael Kernan*

## Poetic Justice

### TRIBUTE TO LANGSTON HUGHES

ONE DAY IN 1925 ASPIRING POET Langston Hughes saw an opportunity. Across the dining room of Washington, D.C.'s Wardman Park Hotel, where the 23-year-old Hughes was working as a busboy, he spotted Vachel Lindsay, who was scheduled to give a reading at the hotel that evening. Hughes sidled over to Lindsay, dropped three of his own poems next to the acclaimed poet's plate and dashed back to the kitchen.

A few hours later, Lindsay informed his audience that he had discovered a bona fide poet right there at the hotel, and he proceeded to read Hughes' work. The story of the discovery of this gifted "Negro poet" was picked up by both local newspapers and the Associated Press. And though Hughes had recently signed a deal with Alfred A. Knopf to publish his first collection, *The Weary Blues*, the ensuing publicity was the kind most struggling writers only dream about.

Over his 65-year life span, Hughes, one of America's most enduring writers and a key figure in the Harlem Renaissance, would publish hundreds of poems, plus novels, short stories, autobiographies, librettos, essays and children's books. To honor the centennial of his birth, February 1, the U.S. Postal Service is issuing a commemorative stamp, and the Smithsonian's National Postal Museum, in Washington, D.C., will feature a small exhibition on his life and achievements (February 1 to August 2).

"His originality was to link his poetry to African-American vernacular speech and also jazz and blues," says Arnold Rampersad, author of a two-volume biography, *The Life of Langston Hughes*, "and in that respect he was quite different from the poets before him."

Hughes was born in Joplin, Missouri. His parents—Carrie, an amateur actress, and James, a stenographer for a mining company—were estranged at the time of his birth. Langston grew up, for the most part, with his maternal grandmother in Lawrence, Kansas. When he moved to New York to attend Columbia University in 1921, he was dazzled by the vibrant Harlem community, which would inspire much of his work.

"He had to represent the voiceless," says Maryemma Graham, a professor of English at the University of Kansas and co-organizer of a Hughes symposium at the college beginning January 31. "He was a poet of the people."

The Postal Museum display includes a first edition of Hughes' *One-Way Ticket*, a 1949 collection of poems pulsating with the rhythms of urban streets and vividly illustrated by Jacob Lawrence's black-and-white drawings. One of the rarest items on view is a copy of the 1926 literary journal *Fire!!*, which published only one issue and showcased Hughes' work along with that of Zora Neale Hurston, Countee Cullen and other young Harlem writers.

In a stirring 1926 essay, Hughes championed his black compatriots for boldly expressing their "dark-skinned selves without fear or shame. . . . We build our temples for tomorrow, strong as we know how, and we stand on top of the mountain, free within ourselves." —*Michele Wolf*

Hughes (at home in 1949) said he preferred his two-room Harlem apartment to a mansion.

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# Catharsis and Comfort

A MONTH AFTER SEPTEMBER 11, A wooden construction barrier shielding ongoing renovations at the Smithsonian American Art Museum and the National Portrait Gallery in Washington, D.C. evolved into a block-long mural commemorating the victims of that fateful day.

Paintbrushes became tools for coping with grief as some 60 museum staffers—from curators and conservators to technicians and secretaries—gathered at lunchtime for nearly two weeks to create a colorful, fitting memorial wall.

With its Stars and Stripes motif and such familiar icons as Lady Liberty's lamp and a Gilbert Stuart-style George Washington, the mural fairly pulsates with patriotism. One scene depicts a multicultural group of people under the protective wings of an eagle. Victims are remembered with images of hearts, candles, peace symbols and delicate flowers.

"We brainstormed about what might be cathartic for us and would help comfort those around us," says Katie Murphy, one of the coordinators for the project.

American Art Museum conservator Quentin Rankin was painting a weeping willow shading a gravestone when a group of women stopped to watch him work. One told him that a friend's 11-year-old daughter was on the plane that crashed into the Pentagon. So Rankin inscribed the girl's name—Asia Cottom—on the painting's gravestone. "I wasn't going to put a name on it," he says, "but this will be a memorial to her."

"Being around everyone while we painted was important," says one museum staffer.

Rankin's longtime neighbor, pilot David Charlebois, was also on the doomed Pentagon plane. Tom Irion, a technician in the conservation department at American Art, painted a gravestone in Charlebois's memory. "My heart was broken for these people," says Irion. "Here was my chance to say something through the skill I have." —*Paulette Dininny*

# Visit the Smithsonian

For a free Associates' planning packet, call Smithsonian Information, 202-357-2700 or 202-357-1729 (TTY), 9 A.M.-5 P.M., Monday-Friday; 10 A.M.-4 P.M., Saturday-Sunday, or send an e-mail to info@info.si.edu.

### INFORMATION CENTER

Upon arrival stop at the Smithsonian Information Center in the Castle (9 A.M.-5:30 P.M.). Most museums are open daily, 10 A.M.-5:30 P.M., except December 25. Members are invited to drop by the reception desk (9 A.M.-4 P.M.) to register for a behind-the-scenes tour of the Castle and to hear about benefits.

### HIGHLIGHT ▶

"A Place Called Home": Photographs by Keith Logan explore birds in their habitats, through February at the National Museum of Natural History.

GENE YOUNG/SMITHSONIAN AMERICAN ART MUSEUM; KEITH LOGAN

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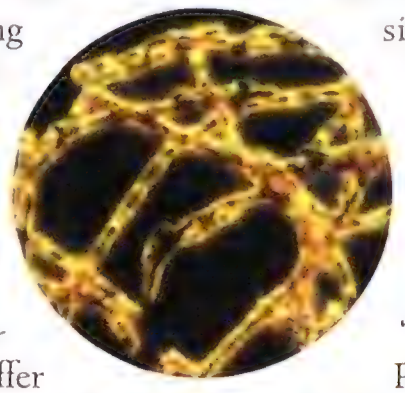
# Hero FOR OUR Time

CHALLENGED TO PROVE HIS GERM THEORY OF DISEASE, LOUIS PASTEUR SHAPED THE TERRAIN ON WHICH THE BATTLE AGAINST ANTHRAX IS BEING FOUGHT

BY PAUL TRACHTMAN

THE FAMOUS VETERINARIAN MONSIEUR H. Rossignol had had it with chemist Louis Pasteur and his outrageous theory that germs caused disease. The final straw came in 1881 when Pasteur announced that vaccinating livestock—in effect giving them the very disease then decimating pigs, sheep and cattle across southern Europe—would protect them. So Rossignol called Pasteur's bluff, challenging him to a public test of his vaccine. For the venue of his experiment, Rossignol would even offer his farm in Pouilly-Le-Fort, a small village 30 miles southeast of Paris.



Louis Pasteur was not easily intimidated. He shared with many brilliant scientists that particular blend of brashness and impatience so often characterized as arrogance. Attending a lecture at the Paris Academy of Medicine two years before, in 1879, he had listened with growing anger as a learned physician spoke about a vague "miasm" that caused women to die of childbed fever. Finally, Pasteur could take it no longer. He rose to his feet. "The cause of the epidemic is nothing of the kind," he shouted. "It is the doctor and his staff who carry the microbe from a sick woman to a healthy woman!" When the physician responded indignantly that no one would ever find this microbe, Pasteur sprang to the speaker's blackboard and drew a string of beads, representing the germ now known as streptococcus. "There it is!" he declared.

Pasteur's legendary self-confidence—many called it conceit—aside, Rossignol's challenge constituted both a gamble for Pasteur and an opportunity for the veterinarian and other critics to ridicule him and his germ theory. Many were certain that Pasteur's vaccine would fail in the bright daylight of a working

**The chemist's dogged work saved millions, but few believed that Louis Pasteur (at age 64 in a portrait by Nadar) could thwart the deadly anthrax bacteria (above).**

Pasteur, a master showman, silenced his most bitter opponents when the sheep he had vaccinated in a French pasture all survived.

farm. After all, he hadn't perfected it yet; in fact, he hadn't tried it outside the laboratory. Even his assistants feared that the experiment could go wrong. But Pasteur put on a brave face. "What succeeded with 14 sheep in the laboratory," he insisted, "will succeed with 50 in Melun."

In early May, Pasteur ordered 25 animals at Rossignol's farm tagged and inoculated with the vaccine. Another 25 received none. Then, on May 31, all 50 were injected with a culture of highly virulent anthrax. Within two days, Pasteur declared, the results would be known. On the appointed day, a group of farmers, veterinarians, pharmacists, agricultural officials and even a local baron crowded into Rossignol's pasture. Never one to miss a good story, the foppish Paris correspondent of the *London Times*, Henri de Blowitz, focused world attention on this tiny town. "M. Pasteur, one of the scientific glories of France, made today experiments in connexion with his latest researches on that malady dreaded by agriculturists, called 'charbon,'" de Blowitz wrote.

The day before the verdict, Pasteur received word that some of the vaccinated sheep had fallen ill, and his optimism flagging, he berated his assistant Emile Roux for making a mistake in preparing the vaccines. He then ordered Roux to go alone to the trial to face the public humiliation for which Roux was responsible. But a telegram that night brought news that the vaccinated sheep were recovering. Pasteur decided he would go after all.

When Pasteur's party arrived at the railroad station the next morning, the cheers of the crowd told of his success. Without missing a beat, he turned to them and announced theatrically, "Well, then! Men of little faith!"

Indeed, the test had proved a complete triumph. "At 2 o'clock, 23 of the sheep which had not been inoculated were dead," de Blowitz recorded. "At 3 o'clock died the 24th and the 25th an hour later. The 25 inoculated animals were sound, and frolicked and gave signs of perfect health." There, in that modest field, the French chemist had vanquished a foe far more wily and destructive than a skeptical veterinarian. For charbon, as the scourge was then known, has another name: anthrax.

### TO RID THE WORLD OF ITS DEADLY SCOURGES

SINCE CLASSICAL TIMES, OBSERVERS SUCH AS HOMER AND HIPpocrates have noted anthrax's exceptional lethality. Every year for centuries, it killed many thousands of livestock. Pasteur's anthrax vaccine not only provided the first effective protection against an infectious disease in human history, it provided proof for his germ theory, the seminal idea that individual microorganisms cause particular diseases. The conquest of anthrax would open the door to

MUSÉE PASTEUR, PARIS; P. 34 MICHAEL ABBEY PHOTO RESEARCHERS; P. 35 GRANGER COLLECTION

fighting other scourges, such as smallpox, tuberculosis and cholera. From Pasteur's work, the disciplines of immunology and bacteriology emerged, which eventually led to vaccinations that would save millions, even billions, of lives.

Yet, more than a century ago, Pasteur understood that his research and the advances it ushered in were a double-edged sword. "Two contrary laws," said Pasteur in 1888, "seem to be wrestling with each other nowadays: the one, a law of blood and of death, ever imagining new means of destruction and forcing nations to be constantly ready for the battlefield—the other, a law of peace, work and health, ever evolving new means for delivering man from the scourges which beset him." Pasteur's prophetic words have only added to his luster.

In the wake of the anthrax devastation that spread through the U.S. mail last fall, Nobel laureate and CalTech president David Baltimore says that today's microbiologists "are all the children of Pasteur." But, he adds, we've neglected some of Pasteur's legacy. "Microbiology has certainly taken on a new urgency since the anthrax deliveries started. It has shown that one important heritage from Pasteur has been allowed to wither—our public health preparedness."

In his own day, Pasteur knew how high the stakes were. During the years when his experiments slowly showed how living yeasts and bacteria could ferment beer, turn grapes into wine, spoil milk, decompose meat and spread epidemics among sheep, swine and other livestock, the Pasteurs lost three of their five young children to the rampant diseases of the day. "My dearest Marie," he wrote his wife in despair, "so they will all die one by one, our dear children. . . ."

"Things turned out as M. Pasteur had foretold," wrote the *London Times'* Henri de Blowitz in 1881.

"There's a picture of Louis Pasteur on my desk," says Col. Arthur Friedlander, science adviser and senior military scientist at the U.S. Army Medical Research Institute of Infectious Diseases at Fort Detrick, in Maryland, where Army scientists are following in Pasteur's footsteps as they battle to protect the public's health, as well as that of U.S. soldiers. "Pasteur and the other pioneers of his day introduced the general scientific methods we still use," says Friedlander. "I work on trying to understand the same disease, anthrax, that Pasteur first studied over a hundred years ago."

### FROM BEET JUICE TO MICROBES

BORN IN 1822 IN THE SMALL VILLAGE OF DÔLE, PASTEUR showed early talent as an artist but was soon drawn to the enigmas of chemistry. As a freshly minted professor of chemistry at Strasbourg, at age 26 he married Marie Laurent, the daughter of the university's rector. When they moved to the university at Lille in the mid-1850s, Pasteur took his first step into the world of microbes. "Louis," Marie wrote to his father, "is now up to his neck in beet juice. He spends all his days in the distillery." Fermenting beet sugar into alcohol was a major industry in the region, but the distillers were afflicted by mysterious failures in the process. Pasteur investigated and identified the essential role of yeasts in fermentation, as well as spotting the rodlike bacteria that infested the "sick" vats. In doing so, he developed a new technique: growing the culprit bacteria in a pure broth, in flasks that he incubated in an oven. Once he identified a microbe under the microscope, he could grow it in his flask, then remove a drop and prove it had the power to spoil a good flask of fermenting beet sugar. Pasteur's cultures turned the study of germs into a science. He could now show that the same germ would have the same effect every time he repeated an experiment.

By 1870, Pasteur had discovered germs that live without oxygen and found others that were blighting French vineyards. He taught growers to heat their wines to kill the bacteria that spoiled them—a process soon known as pasteurization—and he proved that microbes cause the decay of plants and animals after death. He demolished the widespread belief in spontaneous generation of life and ended an epidemic that was destroying the silkworm industry. And when he discovered that grapes would not ferment in a sterile environment, he foresaw a day "when easily applied preventive measures will stop the scourges whose sudden appearance devastates and terrifies entire populations." Among many other academic

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"My own work with anthrax," says researcher Col. Friedlander at Fort Detrick, "has taken on a previously unimagined urgency."

honors, Pasteur was elected to the Paris Academy of Sciences.

Still, most physicians scoffed at his ideas. They insisted that any bacteria seen in diseased tissues were spontaneous products of the disease, not the cause of it. Pasteur's laboratory became a beehive of experiments designed to prove that germs could not arise on their own. Using all kinds of microbes, broths, temperatures and filters, he showed again and again that once a broth was sterilized and sealed, no microbes would grow in it. In such sealed flasks, meat did not decompose, milk did not spoil, sugars did not ferment. But as soon as the flasks were opened to the air, germs entered and their growth set nature in motion again. He even demonstrated that, using a heated flask whose neck was bent to one side like a swan's, he could leave the flask unsealed and repeat his results—because the moisture on the sides of the swan neck trapped all dust and germs. It was a great triumph of experimental technique over mere speculation. Yet, still some Academy scientists contested the results.

Pasteur was not the only scientist to isolate the anthrax germ. Others had noticed the strange proliferation of tiny rodlike objects in the blood of sheep killed by the disease. And in 1876, unbeknownst to Pasteur then growing *Bacillus anthracis* in his flasks, an obscure country physician in Germany was also experimenting with it. In April, this doctor, Robert Koch, set the scientific world abuzz with his detailed description of the germ and its life cycle from rods to tangled skeins of filaments and, at last, to spores that could survive for long periods after a host animal was killed.

In village pastures and in a makeshift laboratory at his home, Koch had been studying this process for years, and it took him several days of lectures and demonstrations at the Botanical Institute, in Breslau, to present his story. It was riveting science, and from then on Koch and Pasteur were widely seen as rivals. It's true that both men were pioneers whose experiments changed medicine forever. But as Koch went on to discover the germs that cause tuberculosis and cholera, he stuck largely to the laboratory and the microscope. Pasteur was searching for the great principles of contagion, more interested in preventing than curing diseases, and he extracted his principles by studying the epidemics that struck down chickens, pigs, cattle and sheep, as well as people.

### HEROIC—BUT DANGEROUS—EXPERIMENTS

PASTEUR PROVED TO HIMSELF THAT INJECTING GERMS INTO healthy animals caused anthrax. His trusted assistant Emile Roux described Pasteur walking in a field at Saint-Ger-

REGIS LEFEBURE

*It was an accident, but as Pasteur himself once said, "chance only favors the prepared mind."*

main, through the stubble left after a harvest. Pasteur asked a farmer about a place where the earth had a different color. The man explained he'd buried sheep killed by anthrax there the year before. Pasteur took a closer look and saw the ground dotted with the little casts of soil left by earthworms. He guessed that worms ate the decaying material underground, then came up to the surface and excreted spore-laden humus, which discolored the soil. "Pasteur never stopped at ideas," Roux later recalled, "but immediately proceeded to the experiment. . . . The earth extracted from the intestine of one of the worms, injected into guinea pigs, forthwith gave them anthrax." This brilliant experiment proved conclusively that the spores had remained infectious despite their long passage up to the surface inside earthworms.

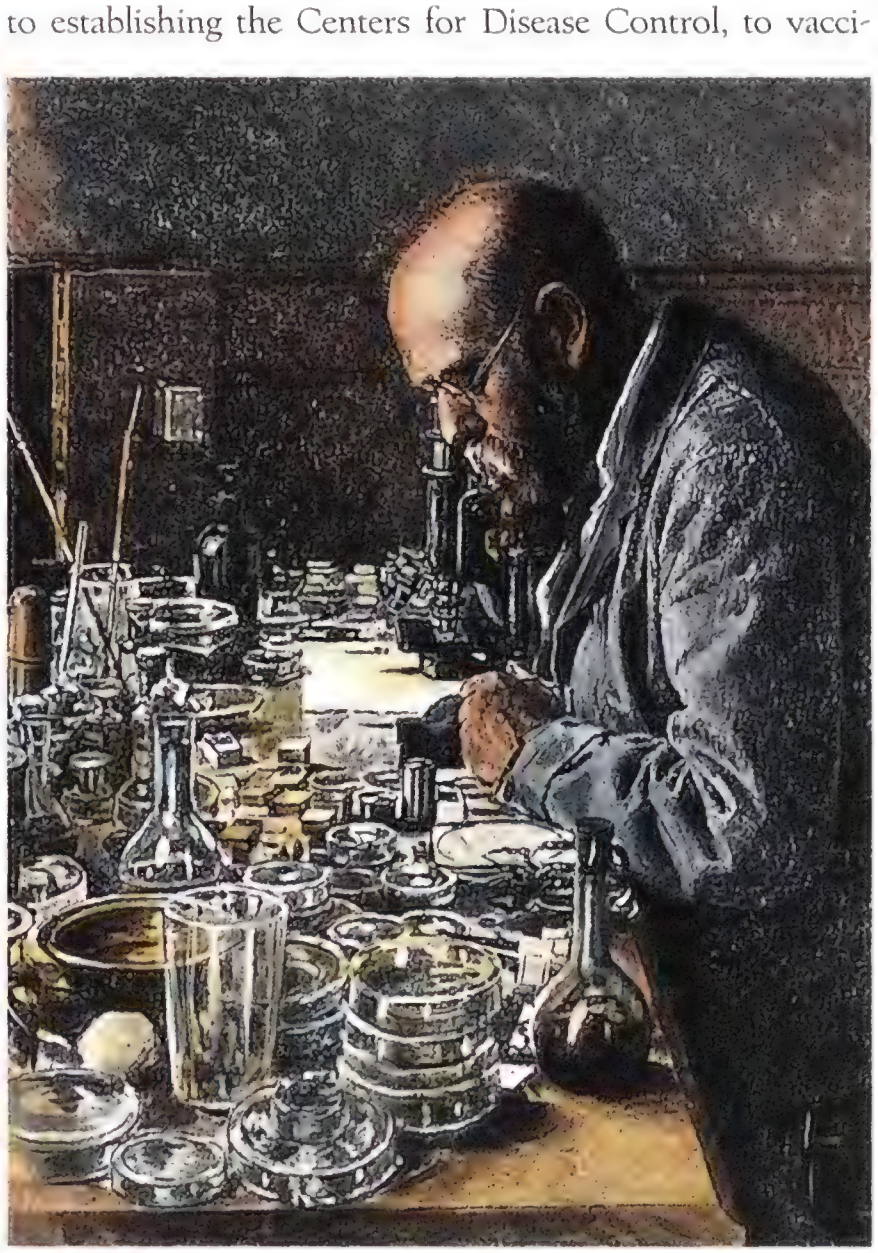
### A VACATION WAS JUST WHAT PASTEUR NEEDED

AS HE CONTINUED HIS EXPERIMENTS WITH ANTHRAX, PASTEUR also began investigating outbreaks of chicken cholera. But in the summer of 1879, some flasks of the germ were left on the laboratory shelf while he went off on vacation. When he started the experiments again, a group of chickens injected with cholera from these flasks did not get sick. Somehow, the germs had lost their virulence. A fresh batch of germs was collected from a farm and injected into the lab's chickens as well as some new chickens bought at a market. The new chickens all got cholera, but the older birds did not. His method had failed, it seemed. But as he pondered the results, Pasteur thought of the work of an English doctor, Edward Jenner, 83 years earlier. Learning that milkmaids who got cowpox never seemed to contract smallpox afterward, Jenner created a crude vaccination by inoculating patients with a weak form of virus that caused cowpox in livestock. It worked, but seemed more of a folk remedy than a proven medical procedure. Pasteur now intuited, without any proof, that using weakened cholera germs, he had "vaccinated" his chickens with the first injections. It was an accident, but as Pasteur himself once said, "chance only favors the prepared mind."

In a flurry of new experiments, Pasteur discovered a method for weakening the cholera germs and soon developed a vaccine to protect chickens from the disease. He next extended these techniques to anthrax. It was at this time that Pasteur accepted Rossignol's challenge and, in so doing, illuminated the true possibilities of germ theory and vaccination.

Seven years later, ill health would force Pasteur to abandon his research. By then, reports microbiologist and Pasteur biographer René Dubos, "medical bacteriology and the sister sciences of immunology, public health and epidemiology had reached maturity, largely through his genius and devotion." And at the same time that Pasteur was advancing his theories over several decades, a growing movement in Europe and America prompted a new approach to public health, what social historian Paul Starr calls the "filth theory" of disease. From the 1850s on, passionate hygienists and social reformers campaigned to clean up water supplies and raw sewage in cities. One report from New York City in 1865 told of pedestrians paying broom-wielding youngsters to sweep a path through garbage so they could cross Broadway. The city established its Board of Health a year later. In 1892, the New York City Health Department opened a bacteriological laboratory where doctors could get diagnostic tests for their patients. And in 1894, the lab began producing a diphtheria antitoxin serum, a new treatment developed in Paris by Pasteur's assistant Emile Roux.

The success of public health institutions over the past century and a half—from stationing a nurse at every school to establishing the Centers for Disease Control, to vacci-



Somewhat rivalrously, German bacteriologist Robert Koch, who first described the anthrax microbe, attacked Pasteur's work.

GRANGER COLLECTION

nating masses of people, to the widespread use of antibiotics—prompted the U.S. Surgeon General to declare in 1967: "We have basically wiped out infection in the United States." Ten years later the World Health Organization accomplished its extraordinary worldwide campaign to eradicate smallpox. As for anthrax, it was just a minor, treatable irritation to cattlemen, who still catch it from a cow now and then but worry more about rattlesnakes.

Yet even before the deadly envelopes with anthrax spores made bioterrorism a new reality, the return of infectious disease was a growing problem, becoming the third leading cause of death in the United States in recent years. Take tuberculosis, for example. By 1968, it had been essentially eradicated from New York City, in part through a $40 million annual budget to fight the disease. By 1988, a skin-and-bones budget of $4 million could do little against a mini-epidemic resulting, in part, from the influx of new immigrants to the city who brought tuberculosis with them. Today, after a costly eight-year effort to reverse the trend, the number of TB cases has steadily declined, but budget cuts are again being considered.

### A FEW RESISTANT BACTERIA TAKE OVER

EVEN MORE INSIDIOUS PROBLEMS HAVE EMERGED: ANTIBIOTICS, overprescribed by doctors and taken improperly by some patients for colds and other viruses on which antibiotics have no effect, have lost efficacy against many strains of bacteria. One strain of the tuberculosis bacteria, for instance, has grown resistant to every antibiotic and kills half the people it infects.

When resistance to antibiotics was first recognized in the 1940s, scientists explained it in relatively benign terms. Random mutations and natural selection created these few resistant bacteria. But as Laurie Garrett, author of *The Coming Plague*, points out, "More recently scientists have witnessed an alarming mechanism of microbial adaptation and change." When threatened, the germs can scour their landscape for genetic material that lets them fight back. They can freely exchange bits of DNA and RNA, called plasmids or transposons, that jump between species of bacteria, fungi and parasites. These fragments of genetic code carry genes for resistance to antibiotics, for increased virulence and for all sorts of devious survival tactics, such as thriving on soap or even in bleach. So while our public health officials were proclaiming the end of infectious diseases, the microbes were taking collective action to outwit our efforts to eradicate them. In fact, since 1976 some 30 new diseases have appeared and 20 previously common ones have reemerged. A recent CDC report on infectious diseases concludes that "as long as microbes can evolve, new diseases will appear."

"Is this a time for sleep?" asks an 1883 *Life* magazine cartoon, reflecting U.S. fears of a raging cholera epidemic in Europe.

For all its promise of designing new drugs, vaccines and diagnostic techniques, genetic engineering, many scientists worry, also has a potential for producing new "designer diseases" and making old microbes more dangerous. Molecular biologists caution that "biomedical science inevitably has its dark side." Two concerned scientists

warned in a recent issue of the professional journal *Nature Genetics* that "the ever-expanding microbial genome databases now provide a parts-list of all potential genes involved in pathogenicity and virulence." It is conceivable, they point out, that a scientist with evil intentions could mix together a cocktail of the world's most deadly pathogens and release it.

Frightening new scenarios involving infectious diseases have also emerged from military research on biological warfare. As anthrax was infecting postal workers here, the U.S. government was arranging to help Uzbekistan, on the Afghan border, remove thousands of tons of deadly anthrax spores dumped into burial pits on an island used by the Soviet germ warfare program. And a report last March in the *Bulletin of the Atomic Scientists*, the journal written by the keepers of the doomsday clock, described the fallout from past research at Utah's Dugway Proving Ground: "In open-air germ warfare tests from 1951 to 1969, human volunteers and animals were exposed to the aerosol dispersal of many germs not native to the area, including encephalomyelitis, Rocky Mountain spotted fever, psittacosis, Q fever, anthrax, brucellosis, plague, tularemia, and hydratid disease."

**Today's specter is the increasingly familiar figure in a HAZMAT suit. Pasteur predicted his legacy would be a double-edged sword.**

AGENCE FRANCE PRESSE/CORBIS; P. 40 GRANGER COLLECTION

At Fort Detrick, with that picture of Pasteur staring across the desk at him, Arthur Friedlander is working to develop new and more effective vaccines against anthrax. In one approach, he and his colleagues are studying weakened germs, as Pasteur did. "We are using modern molecular techniques to create a genetically defined microbe," he says, "but the concept is the same." And taking a different approach, they are also working with a single purified component of the bacterium, rather than the whole microbe, to induce protection against infection. They have already demonstrated in the lab that such a vaccine offers protection. "It will shortly be tested for safety in the first human trials," he reports.

Friedlander pauses for just a moment to reflect on the future we all face. "The relation of my work to Pasteur is not just scientific," he says. "Pasteur was applying science to solve problems of society. For many years I studied the mechanisms that microbes use to damage the host and cause disease. But in recent years, I've worked on using this information to develop new vaccines for the armed forces. The specter of the use of biology to produce harm, previously only dimly anticipated, has now been realized."

Friedlander notes that there have been only about 25 human generations from the time of the plague pandemic of the Middle Ages, which decimated parts of Europe and Asia, to today, and less than a century since the influenza pandemic that killed more than 20 million people in just six months. "In Pasteur's time," he says, "the best scientific minds developed a means to prevent anthrax because of its economic impact on livestock. We now need to engage the best scientists of this generation to overcome the threat of biological terrorism to our civilization."

It is just over a century since Pasteur's death. Three years before he died, on December 27, 1892, as he was honored on his 70th birthday at the Sorbonne, the words he used to urge students to persevere still resonate: "Young men have faith in those powerful and safe methods of which we do not yet know all the secrets. And, whatever your career may be, do not let yourselves be discouraged by the sadness of certain hours which pass over nations."

*Paul Trachtman, a former* SMITHSONIAN *editor, learned of Pasteur from his father, a doctor who passed on his lifelong passion for science.*

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# Marco Polo's Guide to Afghanistan

*Two Americans retrace the steps of the 13th-century Italian merchant through a harsh land of tough, hospitable people*

PHOTOGRAPHS BY DENIS BELLIVEAU

One high point of the journey: Belliveau, left, and O'Donnell were the first Westerners in years to traverse the rugged Vakhan corridor.

"OF THE COUNTRIES WE TRAVELED THROUGH," SAYS PHOtographer Denis Belliveau, "Afghanistan most resembled the account by Marco Polo," the 13th-century Venetian merchant whose journal still fascinates readers today.

During the window of time in the 1990s after Soviet troops left Afghanistan and before the Taliban took control, Belliveau and fellow explorer Francis O'Donnell followed Polo's route through Afghanistan and 20 other countries, traveling 33,000 miles over two years in jeeps, trains and rickshas, and on horse and camel. They are almost certainly the first to approximate Polo's steps through Eurasia entirely by land and sea, without resorting to helicopters or airplanes.

Easy targets in a region long bedeviled by war and violence, Belliveau and O'Donnell donned traditional *shalwar-kameez* (long shirts and baggy pants), *Pakol* hats, and woolen vests. They carried AK-47s and grew beards long and full, mastered Islamic greetings and memorized passages of the Koran. They even took to urinating while squatting—in the manner, they were told, of the prophet Muhammad—to hide their Western identities. So convincing were their attire and attitude that members of one ethnic group mistook them for members of another and they nearly got shot.

When Polo, his father Niccolò and uncle Maffeo returned to Venice in 1295 after a 24-year sojourn, their relatives, failing to recognize them, barred them entrance to their own home. Coarse clothes hung from their lean frames; their bearded faces were bronzed and hardened.

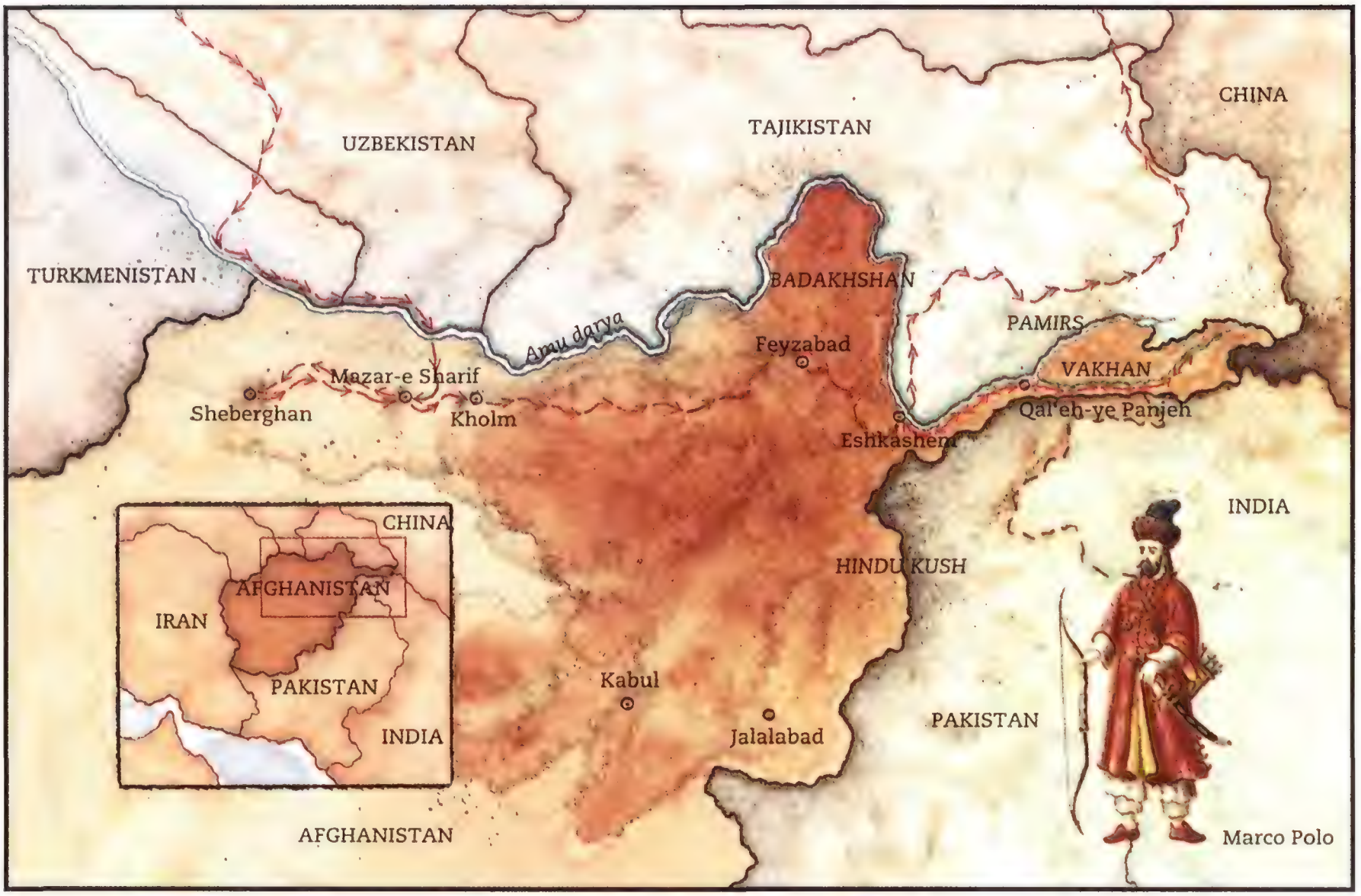
Polo described local animals—now known even among Afghans as Marco Polo sheep—"whose horns are [a] good six palms in length."

Legend has it that the trio persuaded their kin of their true identities only by slicing open the seams of their ragged garments, from which dropped rubies, sapphires, diamonds, emeralds and pearls.

It was not jewels, though, but Polo's travelogue that proved to be the real treasure of his remarkable trek. *Description of the World* (a.k.a. *The Travels of Marco Polo*) tantalized the West with the first recorded glimpse of the deserts of Persia and the mysteries of the Hindu Kush, China and the Himalayas. So powerful were these images that they inspired Columbus to set sail on his fateful journey.

If topography and traditional customs have changed little, the political geography is certainly different from Polo's day. Seven centuries ago, the vast empire of Kublai Khan spread across Eurasia. Polo traveled through it largely unscathed by carrying *paiza*, inscribed golden tablets, describing him as a guest of the emperor. Our latter-day explorers traveled with letters placing them under the protection of commanders of some of the factions that now make up the Northern Alliance.

O'Donnell and Belliveau hope that recent events in Afghanistan will ultimately lead to a comprehensive peace. Then perhaps others will be able to see the country that they—and Marco Polo—found so memorable. —*John F. Ross*




During their journey through Afghanistan (above), Belliveau and O'Donnell kept journals from which the observations below are adapted.

*The banditti . . . are the sons of Indian mothers by Tartar fathers. [Man,] woman or beast, nothing can escape them! . . . I must add the fact that [all but seven of our company] were caught, and some were sold, some put to death.* —MARCO POLO

Ethnic Hazaras physically resemble Polo's captors.

WE HAD IGNORED EVERY WARNING, EVERY DIRE PREDICTION, CONVINCED THAT WE WERE meant to make this journey. Now we looked at each other, silently communicating: if we ever get out of this mess alive, let's get the hell out of this crazy country.

Screaming in Dari, the gunmen motioned our jeep to follow. A teenager ran alongside, banging directions on the window with the muzzle of his gun. We stared at his finger, fixed on the trigger, at the sweat that beaded his brow, fearing that at any moment, he would shoot. He waved us into a side street. We were instantly swarmed upon by armed fighters, dragged from the jeep and pushed against a wall. We studied our captor's faces . . . their Mongoloid features marked them as Hazaras, a minority ethnic group of partly Mongol descent, most of whom are Shi'a Muslims. The Hazaras are popularly (and many argue, incorrectly) believed to be descendants of Ghenghis Khan's hordes—and of the very "banditti" who had captured members of Polo's caravan. It was the kind of coincidence that might have thrilled us—if we could be sure of getting away as Polo had.

The gunfire around us grew louder. Above our heads, perched on the wall, a machine gunner returned fire. We soon learned what was going on. Under attack by Uzbeks, the Hazaras had thought we were with the enemy. Relieved of that notion, they shared smiles and cigarettes, and even helped us sneak out of town. [Today the Hazaras and the Uzbeks are united as part of the Northern Alliance.] In this country, we learned firsthand, your enemy from yesterday may be your friend today—and vice versa. —*Denis Belliveau and Francis O'Donnell*

MAP: MIKE REAGAN; INSET ILLUSTRATION: MUSEO CORRER, VENICE/BRIDGEMAN ART LIBRARY, LONDON

In faction-torn Afghanistan, children (such as 12-year-old Amir, son of a slain commander) wield AK-47s alongside their elders.

*[The old man] kept at his Court a number of the youths of the country, from 12 to 20 years of age, such as had a taste for soldiering, and to these he used to tell tales about Paradise, just as Mahommet had been wont to do, and they believed in him.* —M.P.

IN A CORNER OF THE ROOM SAT AMIR, A BOY OF 12. WE WERE here in Kholm, between Mazar-e Sharif and Kunduz, sharing a meal with a Jamiat-e Islamic commander and his troops. Only weeks before, they had been the target of a 40-day siege, a battle in which Amir's father, the former commander of this post, had been killed. One of the other soldiers—a man with a friendly face who looked nothing like a warrior—pulled up his shirt, revealing a vivid pink scar running from his hip across his chest and on to his back. Though his face still twisted with pain when he moved, he spoke calmly and dispassionately of being bombarded day after day by the opposition's troops. Amir watched silently as he spoke, and as another soldier showed us a painting depicting Amir's father as a fallen martyr in paradise.

After his father's death, Amir had been given honorary command of 20 men, many old enough to be his grandfather. The little lieutenant was shown much respect and the soldiers spoke of his valor in combat, saying he would surely become a great commander—if he survived. —*D.B. & F.O.*

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Many Afghans (like Khalil Ali Daoud, with whom Belliveau and O'Donnell stayed) still work the land, despite the danger of land mines.

*The peasants who keep cattle abide in the mountains, in caves. . . . Beasts and birds for the chase there are in great abundance. Good wheat is grown, and also barley without husk. They have no olive oil, but make oil from sesame, and also from walnuts.* —M.P.

WHEN WE COULD, WE SPOKE WITH PEOPLE WHO WORKED THE LAND; PEOple who, in the face of adversity, were still trying to eke out a normal life. Once, not long ago, Afghanistan was able to feed itself from the fruits of its shepherds and farmers. But years of war have devastated much of the arable land and the natural ecosystems. War has brought even more pernicious legacies: Destruction of the country's infrastructure led to deforestation for fuel, which led, in turn, to soil erosion—and to a loss of the rich fauna Polo described.

But the worst nightmare of all has been the land mines. With an estimated ten million devices hidden in its earth, Afghanistan is one of the world's largest minefields. It's something shepherd Khalil Ali Daoud knew all too well. We stayed in his modest earthen home in the region of Badakhshan. He told us that he herded sheep alone because his eldest son had been killed by a mine the year before. His other children were still young, but soon they too would have to work the fields and face uncertainty at every step. Every family we met had its own horror stories. We found ourselves treading lightly on this rugged, war-torn land. —*D.B. & F.O.*

In the no-holds-barred game of *buzkashi*, Afghans on highly trained ponies try to carry a headless sheep past quirt-wielding opponents.

*This country . . . produces numbers of excellent horses, remarkable for their speed. They are not shod . . . although [used] in mountainous country [and] go at great pace even down deep descents, where other horses neither would nor could do the like.* —M.P.

ABOUT 40 HORSEMEN GATHERED ON AN OPEN FIELD, WITH THE pyramid-shaped mountains of the Pamirs as a backdrop. The horses were festively adorned, with studded, hand-tooled saddles, colorful blankets, embossed leather reins and bridles. A sheep (the "ball" in this contest) was killed and beheaded, and held up for all of us to see. A circle was etched into the earth and the sheep dropped inside it. Three hundred yards away, a wooden post was driven into the ground. The object of the game was to grab the headless carcass, ride around the boundary marker, return to the circle and throw the sheep into it. Slowly, cagily, the riders began to move, each waiting for the right moment. Suddenly our guide broke away from the pack. Holding his reins in his teeth, hanging from his stirrups, he scooped up the sheep and thundered away. Clearing the goalpost, our friend charged toward victory—kicking, flailing, battering anyone who got in the way—and hurled the sheep into the ring with a mighty throw, as the crowd roared with approval. In this game, as in so much of life here in Afghanistan, there seem to be no sides, and no rules. —*D.B. & F.O.*

Belliveau and O'Donnell found the melons of Sheberghan just as Polo had described them, in markets piled high with local produce.

*So after travelling for six days . . . you come to a city called Sapurgan. It has great plenty of everything, but especially the very best melons in the world. . . . When dry, they are sweeter than honey, and are carried off for sale all over the country.* —M.P.

DURING OUR TWO WEEKS IN MAZAR-E SHARIF, WE'D MADE A SIDE trip to Sheberghan—called Sapurgan by Polo—in search of the melons that he had described as the finest in the world.

In such inhospitable desert, a melon is a natural canteen, its sweet water a blessing. This succulent fruit, now grown throughout Central Asia, is such a staple of the region that we never ate a meal without melons being served as dessert alongside endless cups of tea. Our Afghan friends shared with us whatever they had, no matter how little. We were as amazed by their generosity and kindness as we were by their ferocity in battle. Throughout our travels in Afghanistan, melons were used as a gesture of goodwill, as gifts of welcome and departure. The night before we left Mazar-e Sharif, our host gave a feast in our honor: heaping platters of kebabs and rice studded with raisins and nuts, towers of bread, potatoes and dumplings, along with melons and pomegranates, set out on a massive table. In this poor country our feast was as lavish and sumptuous in scale as anything Polo might have received at the court of Kublai Khan. —*D.B. & F.O.*

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# Just Folk

## FROM SAMPLERS TO SUGAR BOWLS, WEATHERVANES TO WHISTLES, AN ENGAGING EXHIBITION HERALDS THE OPENING OF THE AMERICAN FOLK ART MUSEUM'S NEW HOME IN MANHATTAN

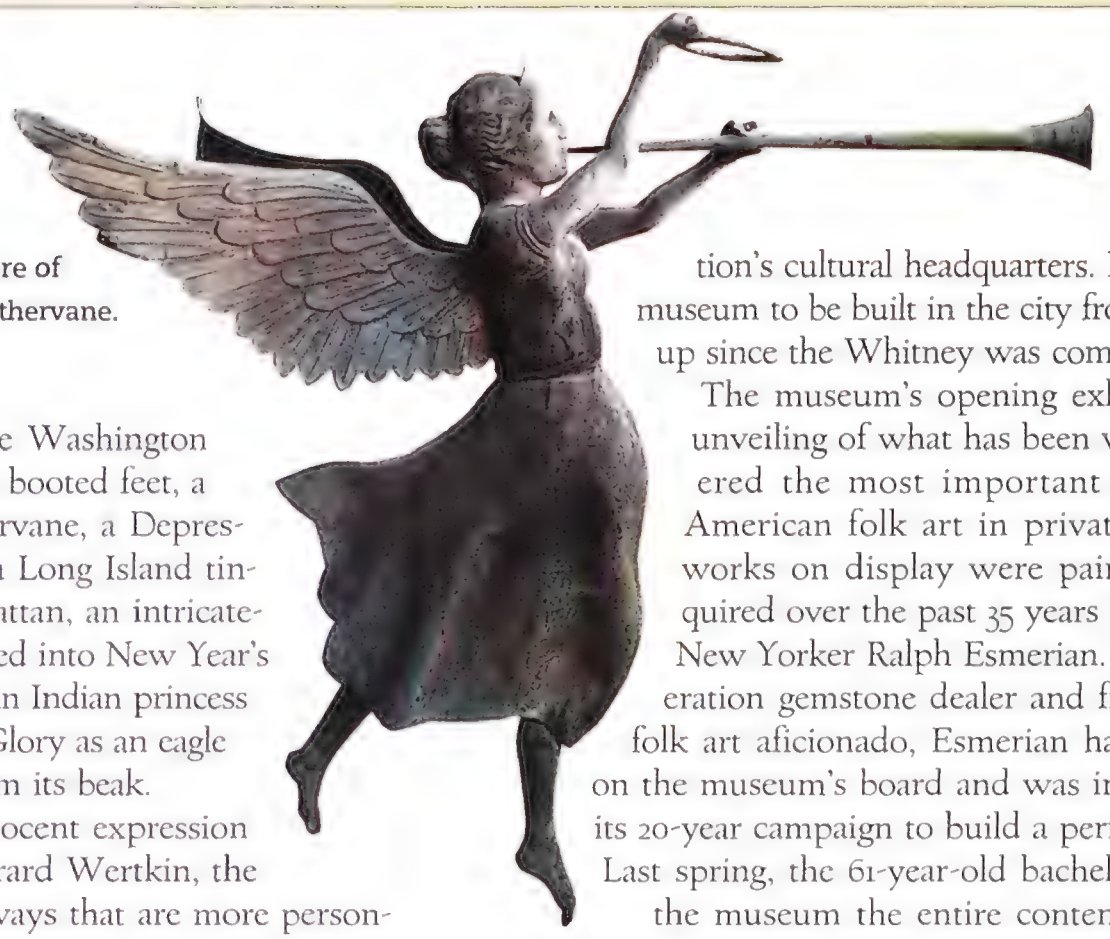
BY DOUG STEWART

DURING THE REVOLUTIONARY WAR, A GERMAN-SPEAKING PENNSYLVANIAN PAINTED a fanciful portrait of his commander in chief's wife. With rouged cheeks and high heels, "Laedy Waschington" sits astride a rearing horse, a tulip in her right hand. The anonymous artist, likely a refugee from religious intolerance in Europe, revealed an obvious affection for his adopted nation-in-the-making, despite some liberties he took with the future First Lady's appearance (p. 59).

Now more than ever, it lifts the spirit to see how charmingly an early immigrant celebrated the land of the free, back when our democracy was still an untested novelty. The good "laedy" is one of the gems of folk art currently on view in "American Radiance," the spectacular inaugural show of the American Folk Art Museum's shimmering new quarters in Manhattan, which opened its doors last month.

Traditional folk art—the works of largely self-taught, mostly rural Americans—has always offered an intimate glimpse into the lives and preoccupations of ordinary citizens, and a thread running through "American Radiance" is a simple, heartfelt patri-

Itinerant New England artist Ammi Phillips did hundreds of portraits during his 50-year career, including *Girl in Red Dress with Cat and Dog* (c. 1830-1835). Opposite: This unique c. 1880 "Dapper Dan" figure was evidently a barbershop sign. Pennsylvania German artist Christian Strenge made the circular heart-filled *Liebesbrief*, a token of love, c. 1790.



Cast in copper, the allegorical figure of Fame caps a c. 1890 New York weathervane.

otism: a carved walnut George Washington with broad shoulders and tiny booted feet, a regal Statue of Liberty weathervane, a Depression-era Uncle Sam made by a Long Island tinsmith and, from Lower Manhattan, an intricately carved cake board that pressed into New Year's cakes of the 1830s the image of an Indian princess holding a wind-whipped Old Glory as an eagle dangles the scales of justice from its beak.

"Folk art tends to be an innocent expression of the nation's spirit," says Gerard Wertkin, the museum's director, "often in ways that are more personal and more moving than in academic art." It's fitting that folk art's new showcase is in New York City, he adds. "Building our museum in the heart of Manhattan is an affirmation of the importance of folk art, which has always been an important cultural expression in America." In a small way, Wertkin says, the new building is also a vote of confidence in the future of New York City as the nation's cultural headquarters. It's the first art museum to be built in the city from the ground up since the Whitney was completed in 1966.

Attributed to artist Robert Peckham, this portrait of the Farwell children was done c. 1841, the year baby Mary Jane (in carriage) died.

The museum's opening exhibition is the unveiling of what has been widely considered the most important collection of American folk art in private hands. The works on display were painstakingly acquired over the past 35 years by Paris-born-New Yorker Ralph Esmerian. A fourth-generation gemstone dealer and first-generation folk art aficionado, Esmerian has long served on the museum's board and was instrumental in its 20-year campaign to build a permanent home. Last spring, the 61-year-old bachelor donated to the museum the entire contents of "American Radiance"—more than 400 objects valued at between $50 million and $60 million. The donation includes a number of icons of American folk art and, in a single stroke, vastly strengthens the museum's holdings. Highlights include the itinerant New England artist Ammi Phillips' transfixing *Girl in Red Dress with Cat and Dog*, for which Esmerian paid $1 million in 1984 (a folk art record), and an exceptional group of Pennsylvania German fraktur (decorative works on paper). These and other objects are featured in a lavish catalog from Harry N. Abrams. Sponsored by Philip Morris, the show remains on view through June 2, 2002.

Founded in 1961, the folk art museum in the beginning had no money, no building and no collection. For years, as it gradually acquired objects, the museum struggled to mount shows in a series of rented spaces around the city. The $22 million new building on West 53rd Street quadruples the exhibition space of its old site near Lincoln Center, which will remain an annex for special exhibitions. Designed by two of New York's hottest architects, Tod Williams and Billie Tsien, it features sculptural, roughly textured panels of gleaming white bronze that give the museum's exterior the illusion of being handcrafted. Behind this cool metallic facade, Williams and Tsien have warmed the interior with wooden flooring, idiosyncratic staircases and a series of intimate nooks. "Traditional folk art is very personal and direct," Tsien says, "and we tried to make our design for the new museum a personal expression, too, rather than another anonymous white box." With weathervanes in stairwells and small paintings waiting to be discovered in odd corners, the unpredictable interior succeeds in giving museumgoers a taste of a visit to Esmerian's Park Avenue apartment before his collection was shipped across town last fall.

In a city with its share of eccentric residences, Esmer-

RALPH ESMERIAN GIFT TO THE AMERICAN FOLK ART MUSEUM (2); P. 54 AMERICAN FOLK ART MUSEUM
PROMISED GIFT OF RALPH ESMERIAN (2); P. 55 RALPH ESMERIAN GIFT TO THE AMERICAN FOLK ART MUSEUM

Landscapes and urban scenes, such as this view of the 1848 New York City skyline from Brooklyn, commonly adorned overmantels.

ian's expansive apartment was eccentric indeed. To enter the living room, one stepped through a freestanding 250-year-old farmhouse door (p. 58). Under the watchful gaze of citizens painted during the Monroe and Jackson administrations, visitors dodged shop signs and sidestepped hatboxes. Carved eagles jostled for space with flasks shaped like pigs. The apartment may be the only one on the Upper East Side with a brick-floored kitchen and barnboard paneling, even on the refrigerator.

A courtly, articulate man with an emphatic baritone voice, bushy gray hair and a welcoming if somewhat formal manner, Esmerian inherited his jeweler's eye and refined tastes from his father, Raphael, a dealer in colored gemstones and a collector of rare Renaissance bookbindings. Raphael moved the family from Nazi-occupied Paris to New York City soon after Ralph was born. The younger Esmerian dreamed of becoming a baseball player and later a city planner before he joined the family business in the 1960s. Esmerian's tastes are more egalitarian than his father's. He patronizes a particular hot dog vendor outside his Rockefeller Center office and keeps in a case in his apartment a 1927 New York Yankees baseball autographed by the whole team—one treasure he's holding on to.

In the mid-1960s, Esmerian had a folk art conversion experience. Looking for a gift in a dealer's shop, he was drawn to a humble ceramic dish from Pennsylvania barely three inches across. He loved its rough back almost as much as its glazed and decorated front. "I thought, 'This is the clay—the actual earth—of America in 1830 or 1840.' So I bought it." After pottery, he began buying works on paper, then furniture and paintings. (In addition to folk art, he collects, among other things, children's book illustrations and vintage Disney drawings.)

In folk art, Esmerian's eye has always been drawn to well-preserved works of high quality and workmanship. He understands that it might seem odd that a Princeton-educated connoisseur brought up amid high-style French furniture and precious gems would develop a passion for old pie plates and needlepoint samplers. But the raw, unpretentious honesty of folk art is exactly what draws him to it.

"These things were never created to be art," he says. "Each object had a

A young schoolgirl likely painted this violin (c. 1830) as an exercise to hone her skill.

AMERICAN FOLK ART MUSEUM. PROMISED GIFT OF RALPH ESMERIAN (2)

Pennsylvania German potter Solomon Grimm excelled in sgraffito patterning; this jar is from 1822.

purpose, whether it was a weathervane, a blanket for a bed, or a piece of pottery." (Of course, that purpose could include providing a creative outlet for the farmer, sailor or pickle-maker who fashioned it.) "Seeing these things and holding them in your hands," he continues, "you have the romantic illusion that you're connecting with the people who built the cultural foundations of our society."

American art historians have not always shared Esmerian's passion. Before the turn of the 20th century, many viewed folk art as a quaint historical backwater. But since then, respect has grown appreciably. "Through the years, it's often been folk art that best tells the story of this country," says Stacy Hollander, the museum's senior curator. "Folk art was part of the fabric of people's lives. This is what hung on walls and filled homes."

Before photography swept the country in the 1840s, painted portraits were a common indulgence. Visiting the United States in the 1830s, French writer Alexis de Tocqueville noted: "Democratic people may amuse themselves momentarily by looking at nature, but it is about themselves that they really are excited." Portraits that depict a young wife with her minutely reproduced lace bonnet and shawl, a formally dressed man bowing a pegless cello, a physician posing with his mortar and pestle before colorful rows of bottled chemicals—all were inventories of prized possessions, as well as badges of social status. Moreover, in an era when lives were too often cut short without warning, the record of a spouse's face or of one's children in a group was an important keepsake. "Portraits were not intended to be flattering," says Hollander. "They were intended to be likenesses."

Painted by Daniel Hendrickson for a New Jersey home, the 18th-century door later graced Ralph Esmerian's Park Avenue apartment.

When we encounter the work of an unschooled 19th-century painter, of course, we're sometimes struck by how wrong the picture looks: oddly proportioned heads, out-of-kilter perspectives, horses the size of Chihuahuas. To be sure, many small-town artists weren't very good. But the best folk art paintings can be riveting.

"Most oil portraits I find terribly boring," Esmerian says. He makes a snoring noise. "But then you see something that truly hits you. There's a real character and energy that's been captured." He especially loves paintings of children, with their hints of real-life vitality. An 1837 Joseph Davis watercolor in the collection portrays a well-dressed young boy with a toy whip, a startled cat and an overturned houseplant. And a delightful circa 1814 miniature by an anonymous artist captures a year-old girl with one shoe on and one clutched in her hand.

Images (such as this c. 1850 walnut figure) of George Washington proliferated in early America.

The itinerant painters who produced many of these pictures journeyed from town to town, stopping at inns for a few weeks

George's other half, Martha, sports a "bee-bonnet" headdress in this c. 1780 fraktur drawing by an anonymous Pennsylvania artist.

and advertising for work. In 1810 Ammi Phillips, for instance, was promising to portray his customers with "perfect shadows and elegantly dressed in the prevailing fashions of the day." In 1812 Connecticut's Reuben Moulthrop painted one portrait in return for the care and feeding of his horse. (He occasionally took time off from portrait painting for what was evidently better-paying work—the creation of full-sized figures modeled in beeswax and coiffed with human hair, among them "the KING OF FRANCE in the Act of losing his Head.") Trying perhaps to compete with daguerreotypes in the 1840s, Sheldon Peck, a farmer who had migrated to Illinois in 1836, began painting wood-grained trompe l'oeil frames around the portraits he made of his small-town neighbors. Peck's wonderfully hard-edged portrait of little Anna Crane, with her dour-looking grandmother and the family Bible, was painted on a linen bedsheet in exchange for a cow.

Landscape paintings, too, had their documentary purposes. Prosperous farmers and homeowners would commission paintings of their property in which every carriage and fruit tree seemed to be recorded. An 1878 canvas by Carl Hambuch of a Richmond, Virginia, hog farm offers a bird's-eye view of the entire operation. The artist is said to have dissuaded the farmer's wife from taking down her laundry before he set up his easel on a nearby rooftop. Just visible on a clothesline is a faded Confederate flag, now apparently put to use as a bedspread.

One of the jewels of the Esmerian collection is a much dreamier landscape—*The Peaceable Kingdom*, by Edward Hicks. The painting depicts an Old Testament prophecy of predators and their prey lying together, while in the background William Penn signs a treaty with the Indians. Hicks, a Pennsylvania ornamental painter who decorated carriages, furniture and the occasional fire bucket, was also a Quaker minister. Some of his congregants sniped that his taste for embellishment was a tad un-Quakerly. Hicks' obsessive portrayals of this scene (the piece in the show is one of 62 versions he's known to have painted) may have been an attempt to atone for his more frivolous work.

Despite Hicks' experience, Pennsylvania was renowned for its religious tolerance, and by the mid-18th century, the counties beyond Philadelphia had a flourishing population of German-speaking farmers. Pious, conservative and tidy—so tidy that farmwives often painted the tree trunks near their homes—Pennsylvania Germans nonetheless indulged a taste for vivid colors and eye-catching decoration.

The Esmerian collection is rich in humble masterpieces from these well-tended households, especially decorated pottery. One standout is a covered earthenware jar made by potter Solomon Grimm in 1822 (opposite). Drawing on old-world techniques, Grimm applied colored slip (liquefied clay) to the surface of the unfired jar and then inscribed decorative patterns by scraping away the slip to expose the red clay beneath—a technique called sgraffito. Local potters brewed their own glazes according to jealously guarded recipes—a mixture using turpentine, tobacco juice and urine, perhaps. Elaborate pieces like Grimm's were presented as gifts and kept as heirlooms, not used in the kitchen. But there are exceptions. Esmerian likes to lift the lid of a 120-year-old glazed sugar bowl and smell the interior. "It still smells like brown sugar," he says.

The jagging wheel (pie crimper) was favored by whalers as a showcase for their creativity; this c. 1870 sea horse is from New England.

RALPH ESMERIAN GIFT TO THE AMERICAN FOLK ART MUSEUM(2); P. 58 AMERICAN FOLK ART MUSEUM. PROMISED GIFT OF RALPH ESMERIAN (3)

Canes were often a whaler's first scrimshaw project. These slightly risqué, c. 1860 female leg handles surely tested Victorian propriety.

Simpler pottery sold for pennies, and a Pennsylvania German farm family with eight or ten children needed plenty of it. Pie plates were in particular demand, as a household might eat fruit pies four times a day. Visitors from Europe were astounded by their quantity and variety—apple, peach, apricot, cherry, quince, mulberry, gooseberry, raisin. Elegantly crafted pie crimpers were used for sealing the crusts in varying patterns that helped everyone remember which kind of pie was which.

German immigrants also loved making fraktur. The word derives from the fractured-looking Gothic typefaces that the calligraphy on these illustrated family papers mimicked. Harking back to religious documents in Europe, fraktur in America took many forms: birth and baptismal certificates, "tunebooks," penmanship exercises, even, for some reason, lavishly ornamented account books. Fraktur were typically composed in German and decorated (with tulips, hearts, angels and sundry unrelated images) by moonlighting schoolteachers. For a fee, Lancaster County schoolmaster Christian Strenge produced chaste love letters ("In my thoughts I have often kissed you, because you are such a pretty maiden") in the form of intricate heart-filled paper cutouts (p. 54). A stylized double eagle painted by David Kulp in nearby Bucks County is a tour de force of text-free fraktur painting. Though his design is almost Persian in its decorative geometry, his choice of bird was suitably American, popular in post-Revolutionary art of all kinds as a symbol of independence.

The irascible, talented Wilhelm Schimmel traded his carvings (like this c. 1860-90 eagle) for liquor and food.

Teachers in the Northeast helped popularize a very different sort of folk art. Well-to-do families in the early 19th century enrolled their daughters in private academies to learn fine embroidery, painting on silk and other domestic arts. "Often teachers would provide a print or a pattern, and the girls would copy it or take elements from it," says Hollander. Practicing these arts was thought to endow girls with the skills and patience needed for womanhood. "It was really about making them attractive as marriage partners."

Within these prescribed limits, the most talented girls, some as young as 9, found room to use their imaginations. The examples in the Esmerian collection have a bright and quirky liveliness, from a 1744 sampler of Adam and Eve, fig leaf and all, to a circa 1830 violin that an unidentified schoolgirl painted in red and black checks. Morbid as it may seem to us now, mourning pictures—weeping figures in black, gravestones in the foreground, willows to one side—were a favorite schoolgirl exercise. Neoclassic elements from Greek and Roman art, inspired in part by the discoveries at Pompeii, gave these pictures a trendy air. "It was fashionable to produce mourning art, and Americans have always wanted to be fashionable," says Hollander.

The vogue for this kind of art in the first decades of the 19th century was spurred by a national outpouring of grief over the death of George Washington in 1799. Indeed, Washington was a folk art favorite from well before his death until long after Americans stopped mourning his passing. "It is noteworthy that every American considers it his sacred duty to have a likeness of Washington in his home," wrote a Russian diplomat who visited the United States in 1811. "Washington's portrait is the finest and some-

The flower motif on this c. 1720-50 Pennsylvania pocketbook reflects a British influence.

times the sole decoration. . . ." Besides framed pictures, his stolid image has turned up on sgraffito plates, box lids, andirons and whale's teeth, the raw material of scrimshaw.

In fact, some of the most astonishing objects in the new exhibition are scrimshaw, especially the three-dimensional pieces. Scrimshaw was carved from the teeth and bones of whales and the tusks of walruses in the 19th and early 20th centuries. The carvers were typically men on whaling voyages, which could stretch for years—plenty of time to fashion cane handles, pie crimpers and, in one case, a striking inlaid box with tiny scrimshaw fists as drawer pulls. Sailors didn't stroll the deck with canes, nor did they bake many pies. The carving of domestic objects aboard ship reflected the longing of homesick men for solid land, home-cooked meals and female companionship.

Although scrimshaw was often more decorative than practical, other folk sculptures in the show were obviously put to good use. The shop sign, like the weathervane, was, at its best, a perfect blend of art and utility. By the middle of the 19th century, most designs were produced in quantity, usually by anonymous craftsmen in commercial shops (among them former figurehead-carvers). Here, too, patriotic symbols were common. The pose of a circa 1880 cigar-store sultana from New York, with a raised right hand, suggests a sidewalk Statue of Liberty. The real thing wasn't to grace New York Harbor until 1886, but her design had been widely publicized and her giant copper torch had already awed visitors to the Philadelphia Centennial in 1876. Another remarkable sculpture is a miniature version, in painted tin, of a knife-grinder at work, complete with moving parts. Amazingly, the piece was found inside a plaster wall during a 20th-century renovation of a house in Marblehead, Massachusetts.

Twentieth-century folk art hasn't been a major part of Esmerian's collecting. (Complementing his focus on traditional 18th- and 19th-century folk art, the museum is mounting a special inaugural exhibition of the work of 20th-century "outsider artist" Henry Darger, a Chicago recluse.) Exceptions to Esmerian's preference for works made before 1900 include pieces by two African-American artists who died at mid-century—William Edmondson and Bill Traylor. Edmondson was a janitor and tombstone maker who carved chunks of scavenged limestone into stylized figures, using a railroad spike as a chisel. Traylor, born a slave in Alabama in 1854, was in his 80s when he began making witty, semiabstract paintings and drawings of people and animals. In just three years, from 1939 to 1942, he produced nearly 1,500 works on discarded mail and scraps of cardboard.

Esmerian likes the idea that Traylor and Edmondson both worked for themselves, pursuing personal visions in their own distinctive ways year after year. He hopes the opening of the museum's new building in the center of Manhattan's cultural district—next door to the Museum of Modern Art, no less—will give new visibility to the best self-taught artists of centuries past while helping, in a modest way, to ensure New York City's vitality as an art center in the years ahead. "I've lived in New York most of my life," he says, "and somehow this city keeps renewing itself."

*Doug Stewart wrote about New England folk art collectors Bertram and Nina Fletcher Little in the September 1998* SMITHSONIAN.

Landscape and architectural scenes often embellished such items as this c. 1820 traveling trunk.

AMERICAN FOLK ART MUSEUM. PROMISED GIFT OF RALPH ESMERIAN (4)

# Tiger Tracks

REVISITING HIS OLD HAUNTS IN NEPAL, THE AUTHOR LOOKS FOR TIGERS AND FINDS A CLEVER NEW STRATEGY FOR SAVING THEM

BY JOHN SEIDENSTICKER

IF IT WASN'T EXACTLY A HOMECOMING, IT WAS THE NEXT BEST THING. I'D BEEN CROSSING and recrossing the Rapti River on elephant for three days, looking for tigers. The Rapti runs across the top of Nepal's Royal Chitwan National Park, a 360-square-mile preserve on India's northern border. At the end of the third day, hot and tired, I was content to relax and sip warm whiskey at the open-air bar in Sauraha. As the sun went down over the river, I watched the elephant men bathe their massive charges and reflected on the changes that had occurred there since my first visit nearly three decades earlier.

In the summer of 1973, not long after earning a PhD in wildlife science for a radio-tracking study of mountain lions in Idaho, I was asked to help start the Smithsonian-Nepal Tiger Ecology Project. The purpose of that joint undertaking was to find out how tigers in and around Chitwan lived. We combined old-fashioned methodology—elephants trained back in the days of trophy hunting to get close to tigers—with new technology: dart guns loaded with immobilizing drugs. The plan was to knock out all the tigers, fit them with radio collars and then track their movements.

In those days, Chitwan had just been designated a park. Sauraha (pop. 8,338), Chitwan's eastern gateway town, was a sleepy collection of reed houses plastered with cow dung. There were no hotels, inns or restaurants. There was certainly no open-air bar, only a patch of sand where I sat one night without whiskey or even a chair listening to a nearby tiger's roar. It seemed like a good place to launch our study, and soon I had darted an adult female, attached a radio collar and named her, with proper scientific detachment, Number 1. She was the first radio-collared tigress ever.

By the time I left Nepal a year later, it was clear that tigers and the exploding human population around Chitwan were on a collision course. It was also clear that eventually tigers would be the big losers. It was much the same story throughout the rest of the world. From the Russian Far East to the Indian subcontinent, habitat destruction and poaching were out of control. By the late 1980s, fewer than 7,000 big cats still survived and many experts had just about written them off.

Seidensticker (with a sedated cub in the early '70s) darted and put radio collars on tigers in and around Royal Chitwan National Park to learn more about how they lived.

Fast-forward to 1996. I was organizing an international tiger symposium when I heard about what sounded like a major breakthrough in the long struggle to save this magnificent predator. In Nepal, of all places, conservationists had discovered that people and tigers can coexist if the people have a stake in the tigers' future. The "stake" was tourism. Habitat restoration is good for tigers, and tigers attract tourists, who are good for local economies. As it happened, that scenario was being played out in Chitwan, so recently I arranged to revisit the park.

Not long after I arrived, I went to the Central Zoo in Kathmandu, the capital city, to see a caged tigress that had wandered across the border a year earlier from a region in India where livestock and human hunters had virtually eliminated natural prey. Starving, she had walked into a small Nepalese village one evening, killed an elderly woman in front of her hus-

JOHN C. SEIDENSTICKER; PP. 62, 63 PETE OXFORD/DRK PHOTO

band and devoured part of her body. She returned to kill again before authorities could capture her. Arun Rijal, a senior manager with the King Mahendra Trust for Nature Conservation, told me her story to make a point: tigers living in a healthy jungle don't have to eat people.

Chitwan means "heart of the jungle." The park encompasses a swampy mosaic of grasslands and forests, called the Terai, that once stretched unbroken in a 1,000-mile-long ribbon south of the Himalayas. Today the Terai consists mainly of farmland, but it is dotted with islands of protected areas. Change drives this region. Monsoon flooding takes place for several months of each year; then, during the dry season, the grassy areas burn. New grass sprouts immediately, attracting herds of spotted deer, hog deer and sambar, a large Asian deer. Wherever they go, tigers and leopards follow.

The Chitwan Valley was ignored by farmers and other outsiders until the advent of DDT. Once malaria in the region had been brought under control in the late 1950s, the human population soared. Conversely, elephants, water buffalo, deer, gaur and rhinos were decimated by habitat destruction and hunting. In the late 1930s, tigers were still so abundant that a single three-month hunt organized for the viceroy of India killed 120 of them. By 1960, they were rare.

The grasses I saw lining the Rapti's riverbanks in 1973 were chewed to a nubble by livestock. My communications system in those days was a runner who rode trucks and buses from Sauraha to Kathmandu to get supplies, cash and mail. I had another man who bargained with villagers to buy rice, lentils and chicken for our food. A tent was the only local accommodation available to visitors.

As a scientist, I was concerned with the tigers living in the park, but I soon realized there was another side

*In the late 1930s, tigers were still so abundant a single three-month hunt killed 120 of them.*

to the story. One night while I was hunkered down on a platform in a tree, waiting for a tiger to return to a fresh kill it had left nearby, I drifted off and dreamed about a rice mill, cattle mooing and people calling out greetings as they began their day. But it wasn't a dream; I was hearing in my sleep the gentle sounds of village life across the river. I realized that people were the other half of the equation, people who, for many years, had been left out of it. After the park was established, officials admitted tourists but barred the villagers. Eventually, a buffer zone was created to give them limited access to fodder, wood and thatch for roofing their homes. But as the human population bordering the park exploded to nearly 300,000, the buffer zone became so overused that it was all but worthless to man and beast alike.

As far as the villagers were concerned, Chitwan was a disaster. Revenues generated by tourism were going to foreign lodge owners and the government, but hardly anything was trickling down into the local economy. Consequently, when tiger poaching skyrocketed, locals had no interest in helping the authorities stop it. Nor were they inclined to tolerate tigers that preyed on livestock and killed their neighbors. Instead, they resorted to poison. And who could blame them? The solution, it turned out, was to enlist the villagers in an enterprise that would improve their lives even as it benefited tigers.

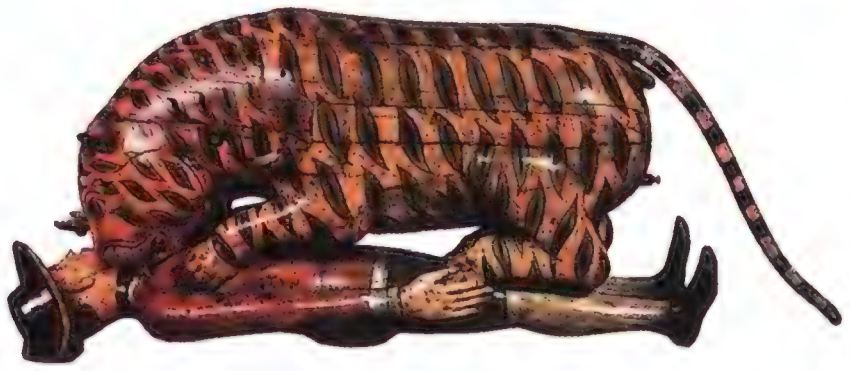
It began in Baghmara, a settlement of some 600 households near Sauraha, where, in the late 1980s, a commercial native-tree nursery was planted. Next, the villagers fenced and planted a large community forest to grow timber and firewood in the buffer zone. They also started up several stands of native rosewood, a commercially valuable species that takes 20 years to mature. Still other parts of the buffer zone were fenced off to let prime tiger habitat grow back.

As wildlife increased, so did opportunities to cash in on it. A view-

—Story continues on page 68

There was almost no tourism around Chitwan when Seidensticker arrived in 1973, but in recent years it has taken off, and Sauraha (here, the main drag) is now a busy gateway town.

JOHN C. SEIDENSTICKER



# Tigers at the Gate

WHENEVER A MAN-EATING TIGER ran amok in India a century or so ago, the authorities knew where to turn for help. Jim Corbett, the quiet, nondescript son of a low-ranking functionary in the British Raj, was the most celebrated tiger hunter of his time. Between 1906 and 1941, he tracked down and shot nearly 50 rogue cats that altogether had dispatched some 2,000 people. A single tiger, the so-called Champawat man-eater, had killed 200 men, women and children in Nepal and 235 more in India.

When Corbett got on a man-eater's trail, it was usually still hot—a pool of blood, a tangle of human hair in a blackthorn thicket, torn clothing, splinters of bone, a leg cleanly severed below the knee and still oozing warm blood. And when he confronted the killer, it was often at great personal risk in terrifyingly close quarters. Once, after using up the cartridges in his own rifle, he borrowed a companion's gun and finished off his quarry with one last shot.

These days the tiger's huge popularity as a poster boy for endangered species stands in sharp contrast to its grim image in earlier times as the incarnation of evil. "The historical record overwhelmingly favors the view," asserts Dutch scholar Peter Boomgaard in his new book *Frontiers of Fear: Tigers and People in the Malay World, 1600-1950* (Yale University Press), "that the tiger was mankind's most implacable enemy."

In the 1850s, tigers killed 600 people a year in Sumatra and Java. Entire villages were turned into fortresses and others were abandoned altogether. In India, tigers did away with nearly 1,000 people annually throughout the late 1800s; they killed 7,000 there over a five-year period in the 1930s.

Enter Jim Corbett. Because of his track record, he enjoyed an almost godlike status in India, but Corbett had grown up poor in the northern hill country not far from Nepal. His father died when he was 5, leaving his mother to care for 12 children.

Man-eaters attack Nepalese (grieving over a teacher, above) and Englishmen (in a 1700s effigy carved in India, top) alike.

Young Corbett hunted to put food on the table. He became known far and wide for his uncanny shooting skill and immense knowledge of the jungle, which led to requests from villagers and local British officials to eliminate tigers and leopards that were preying on people. Corbett agreed to do so on two conditions: he would not accept a bounty, and other hunters had to leave the designated area. "I am sure all sportsmen share my aversion to being classed as a reward-hunter," he explained in his best-selling *Man-Eaters of Kumaon* (1944), "and are as anxious as I to avoid being shot."

His courage and stamina were legendary. He often trekked through the hills at an exhausting clip, eating nothing for days at a stretch. He pursued the Tala Des man-eater while suffering from a pierced eardrum caused by a rifle going off accidentally. During the several weeks it took to run the tigress down, an abscess paralyzed his head and neck. It burst while he was staked out in a tree, waiting for the cat to appear. "Not into my brains as I feared it would," he later recalled, "but out through my nose and ear."

In his later years, Corbett, who died in 1955 at the age of 79, exchanged his

VICTORIA AND ALBERT MUSEUM, TRUSTEE; PETER JACKSON

When he wasn't hunting, Corbett (with an enormous male he shot in 1930) lived quietly in the Indian villages where he grew up.

rifle for a camera and became a conservationist. He campaigned to preserve India's dwindling forests and helped found the country's first national park, which is now named after him.

Although tigers are scarce today, man-eating is by no means a thing of the past. Attacks remain a problem in the Uttar Pradesh region of northern India, in the Sundarbans Delta on the Bay of Bengal and in Nepal's Royal Chitwan National Park. Last year, tigers were responsible for 19 deaths in and around Chitwan. One tigress in the Surung Valley accounted for five of those. After the tigress ambushed a couple in March, killing the woman, the husband drove her off with a stout stick. A few months later, she pulled her most recent victim out of a tree, killed him and ate much of the body. At this writing she remains at large.

Why do some tigers become man-eaters? Because they're crippled, or too old and enfeebled to pursue deer, boars and other wildlife. Or because their natural prey has become scarce. Diminishing tiger habitat and booming human populations increase the likelihood of encounters, and in certain situations people can present almost irresistible targets of opportunity.

Following the latest spate of tiger attacks outside Chitwan last fall, representatives of the King Mahendra Trust for Nature Conservation, Nepal's leading environmental group, interviewed people who live in the area. They expressed a degree of forbearance unthinkable in Corbett's day. A teacher at a primary school said the man-eaters should not be killed but, rather, "rehabilitated" in captivity or released deep in the park. Resident Surya Prasad, who has been active in a community-forest project, said: "If the tiger had come to our home and killed us, it would be appropriate to kill the tiger, but since that's not the case, it would not be appropriate."

Such sentiments reflect an acceptance of nature with the bark on, so to speak, at which many in the West can only marvel. But the fact is, those who live cheek by jowl with tigers every day of their lives understand far better than the rest of us that, in the long run, a world with them is infinitely preferable to a world without them. It may be as simple—and as complicated—as that. —*Jim Doherty*

MAN-EATERS OF KUMAON BY JIM CORBETT, OXFORD UNIVERSITY PRESS, 1946

Continued from page 65

ing tower, outfitted with a two-room hut, was built in the buffer zone and rented to visitors for $10 a night. Soon, villagers were charging tourists for nature walks and elephant rides. Eventually, a change in government policy gave Baghmara and other villages a share of Chitwan's tourism revenues. Over a five-year period, Chitwan went from bust to bonanza. Tourism in 1996 alone generated nearly $300,000, and another $8,000 came from harvesting rosewood trees. It wasn't long before

*We found pugmarks in the riverbank, indicating the presence of at least two tigers nearby.*

sided, cow-dung-plastered houses I had found there 30 years earlier. But I also saw dozens of hotels and inns, and numerous bars and restaurants serving pizza and burgers. At every corner, Cokes, Marlboros and souvenir T-shirts were for sale. Signs on small offices advertised Internet access; there was even a cell-phone relay tower on the edge of town.

Many of the 100,000 or so tourists who visit Chitwan each year encounter rhinos (usually while riding elephants), but tigers, which number about 100, are seldom seen.

word got around, and today six other villages are planting community forests and catering to tourists.

Which is catnip for tigers. As the number of villages participating increases, so does the amount of land set aside in the buffer zone. Experts now believe tiger habitat in the Chitwan Valley can be doubled in the next 25 years, increasing the population of breeding, adult animals there from 66 to 100 or more.

On my first day back in Sauraha, I saw the same thatched-roof, reed-

When Arun Rijal took me to the viewing tower in Baghmara, I climbed it and looked out in amazement at a luxuriant forest. Only an expert could have guessed it had been a wasteland just a few years earlier. During several days of exploring locally by elephant, Arun and I saw many rhinos but no tigers. Since I'd come to see tigers, I was eager to venture farther afield, to Temple Tiger Camp and Tiger Tops, two tourist lodges at the western end of Chitwan, about 15 miles away.

To begin our trek to Temple Tiger, we gingerly got into a narrow dugout canoe, and a wiry young man poled us across the Narayani River. On the other side, we climbed aboard waiting elephants to trudge through grass that swayed overhead. The lodge was set back from the Narayani on a high bank where small hills, old channels and broad riverbanks create an interlacing of habitats ideal for spotted deer, sambar and wild pigs, and thus for tigers, as well. The next morning, once again perched on elephant back, we saw pugmarks in the muddy riverbank, indicating the presence of at least two tigers nearby.

On our journey to Tiger Tops, six miles away, we saw rhinos lying submerged, with only the tops of their noses and ears sticking out of the quiet water of the old oxbows. They were trying to escape the intense heat of midday. Coming out of that soggy world onto higher ground near a park guard post, we found tiger tracks along the trail. Chuck McDougal and his Land Rover were waiting for us at the guard post.

Semiretired from his position as Tiger Tops' naturalist, and part-owner of the lodge, Chuck is a longtime Smithsonian research associate. He has followed the lives of the tigers for nearly 30 years, creating a history of the waxing and waning of dynasties unrivaled in the annals of wildlife biology. Over dinner at the lodge, Chuck told tiger tales. Someone overhearing him could easily have imagined he was describing some slightly deranged human clan with a propensity for violence.

He surmised that the tracks we had seen earlier were Munda Bhale's (Munda is the name of a local lake; bhale means "male"). The tiger had first appeared in the area in the spring of 1998 and killed three cubs of a female called Temple Tigress. About that same time, Lata Bhale, who had been the dominant male in the area

PETE OXFORD/DRK PHOTO

*The tiger was standing 100 feet away, looking at us over his shoulder. Then he sauntered off.*

for a decade, disappeared—presumably killed or run off by Munda. Lata, which means "vine," had sired 33 cubs, all of which had dispersed or were dead. As for the females, Chuck reported that he and his staff were monitoring six of them living in the 40 square miles of western Chitwan. I felt a sort of paternal pride to learn that three of the six were descendants of my old friend Number 1.

In the morning, Arun and I again rode elephants to keep looking for tigers, but once again we failed to see any. As the days dwindled down, I was beginning to fear I might have to leave without so much as a glimpse of the animal that had meant so much to me for so long.

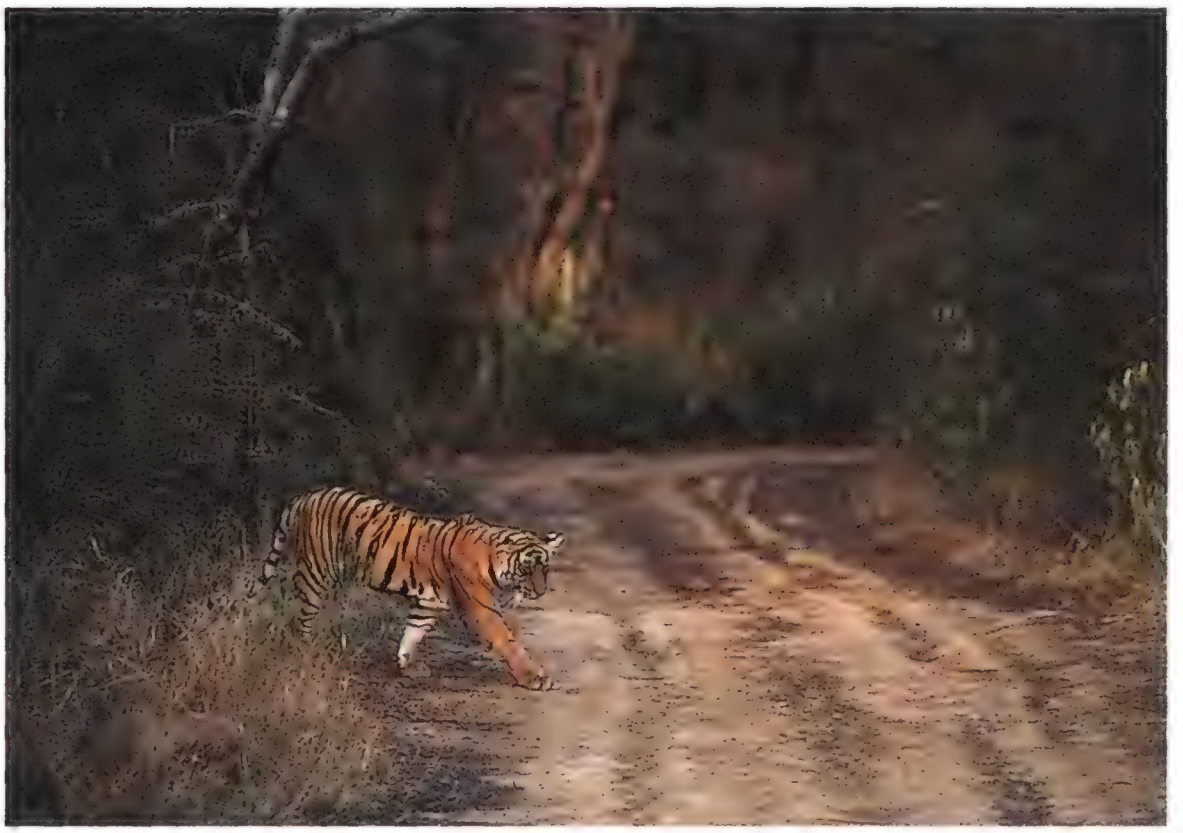
My last chance was the Parsa Wildlife Reserve, 190 square miles of stately forest spread across the eastern flank of Chitwan. Parsa's warden at the time, Ram Prit Yadav, was a warden in Sauraha when I began my tiger work there. Ram Prit was never one to avoid challenges. The bright yellow T-shirt he wore when Arun and I arrived was emblazoned with the title, "World Elephant Polo Champion 1999." Arun joked that Ram's team always won because his elephants, being government workers, had more time to practice than those on rival teams. Ram Prit laughed, then showed me a tattered wall map of the reserve, to pinpoint the problems he had been having with poachers. He told me he relied on a network of paid informants to keep tabs on the poachers' whereabouts.

Ram's staff had recently cleared a road through part of the reserve, and we took a drive in the late afternoon, while there was still light. Going at breakneck speed in an open-back truck, we hurtled through the forest until we came to an unremarkable place where Ram took us to a shallow pond. Next to the pond, he showed us a poacher's blind—just a few poles holding up a rough wooden platform. Then we hopped back into the truck, and hanging on for dear life in the back, I scanned the forest edge, hoping a tiger's black stripes would materialize out of the green confusion of brush whizzing by. Suddenly I saw a fine male sitting all by himself off to the side of the road. Hearing my desperate banging on the roof of the cab, the driver stopped, but by the time he backed up, the tiger had moved. He was standing 100 feet away, looking at us over his shoulder. Then he sauntered off, fading silently into the tangled curtain of the jungle. At last I had seen my tiger.

One morning this past November, I was back in my Washington, D.C. office, reading my e-mail, when I learned that two tigers had just gone on a man-killing rampage outside Chitwan. It turned out that the initial reports were exaggerated; only one tiger was involved, but even so, seven people had been killed and four injured in several grisly incidents within a single week. The tiger was shot when it returned to eat the body of a woman it had killed earlier in the day.

All of the attacks occurred outside the buffer zone on the western side of Chitwan, where Arun and I had gone looking for tigers around the Narayani River. Significantly, the villages there have not yet undertaken the kind of habitat-improvement projects that are transforming the buffer zone near Baghmara. The absence of natural prey may well have been partly responsible for what happened when the cat (bearing a gunshot wound likely inflicted by a poacher) strayed out of the park.

Reflecting on the news, I remembered the tiger I saw in the cage at the Kathmandu zoo and the reason it was there: tigers living in a healthy jungle don't have to eat people.



Because they hunt primarily by sight, rather than smell, tigers are partial to brushy openings (including jungle roads) where they can hide, watch and ambush unwary prey.

SHIN YOSHINO/MINDEN PICTURES

*John Seidensticker, senior curator at the Smithsonian's National Zoo, is also chairman of the Save the Tiger Fund advisory council.*

# What's *for* Dinner?

PHOTOGRAPHS BY PETER MENZEL

**NAMGAY FAMILY: SHINKGHEY, BHUTAN**
Meals revolve around a steaming pot of red rice, large enough to feed friends and members of the extended family who frequently appear unannounced.

NATOMO FAMILY: KOUAKOUROU, MALI

Two wives alternate the responsibility for preparing meals, which involves making the fire, grinding the grain and preparing *ngome*, breakfast cakes of pounded millet or rice, salt and oil. The cakes are also sold.

MEMBERS OF THE NATomo family (above) in the North African nation of Mali arise well before sunrise, lighting a fire and beginning an hour-and-a-half-long breakfast ritual, a process that often involves winnowing and rinsing the grain for oatmeal. In California (right), breakfast for the Cavens begins when they open a box of Raisin Bran. Photographer Peter Menzel posed the Natomos, the Cavens and five other "statistically average" families with the food they eat in a week. This project was a follow-up to his book, *Material World: A Global Family Portrait*, a revealing collection of photographs of families with all their possessions outside their homes. "These images are a fascinating mirror on ourselves," he says, "enabling us to compare our families with others." Some families, such as the Namgays in Bhutan, rely almost entirely on food they grow themselves. The predominance of grains, raw vegetables and meats in the foreign households indicates substantial meal-prep time. In the Cavens' kitchen you can almost hear the microwave's familiar ding. Less time in the kitchen may mean more time with the family, but not necessarily. After all, cooking often brings together Soumana Natomo's 15-member family, including his two wives. —*Christian Harlan Moen*

COSTA FAMILY: HAVANA, CUBA

Both parents spend up to an hour and a half preparing the evening meal, which often consists of *congre*, a mix of rice and black beans, as well as fried bananas and french fried *malanga*, a potato-like starch.

CAVEN FAMILY: AMERICAN CANYON, CALIFORNIA

On many weeknights the daughter sets the table for four (although her father rarely gets home in time for dinner), while her mother spends half an hour cooking their favorite meal of chicken, broccoli and toast.

**UKITA FAMILY: TOKYO, JAPAN**

Shopping involves a daily trip by bicycle to the local shopping area, where the mother pays a premium for fresh foodstuffs, including yellowtail tuna and rainbow trout, which she serves raw.

"I MIGHT GLORIFY MY BILL OF FARE UNTIL I WAS TIRED; BUT AFTER ALL, THE SCOTCHMAN WOULD SHAKE HIS HEAD AND SAY, 'WHERE'S YOUR HAGGIS?' AND THE FIJIAN WOULD SIGH AND SAY, 'WHERE'S YOUR MISSIONARY?'" —MARK TWAIN

RASIM FAMILY: SARAJEVO, BOSNIA AND HERZEGOVINA

Both parents shop at the outdoor "green market," buying ingredients such as chicken and rice for lunch, the major meal of the day. Dinner may include the family favorite of bread with *ayjar*, a paste of eggplant, red pepper and oil.

CELIC FAMILY: ISTANBUL, TURKEY

The entire family gathers for dinner, which can include *yahni*, a dish of lamb cooked with onions and potatoes, and *yufka*, a mixture of arugula and feta stuffed inside an egg-roll-shaped pastry and baked.

# MASTER *of* MIDDLE EARTH

WHEN J.R.R. TOLKIEN FINALLY COMPLETED HIS *LORD OF THE RINGS* TRILOGY IN 1949, THE OXFORD DON SCARCELY IMAGINED HIS FANTASY EPIC WOULD ENTRANCE 100 MILLION READERS

HE WROTE, MOST OFTEN, LATE INTO THE NIGHT, IN a modest study cluttered with heaps of books and papers and looking out onto a garden. The Oxford don, harried by the necessity of preparing lectures and publishing scholarly research, had little time to call his own. Unlike many of his colleagues, he possessed no independent income. Ever impecunious, he had taken on the task of grading additional exam papers to make ends meet and support a wife and four children. The midnight hours, then, became his refuge, the interlude when he could turn to the epic he was writing, scrawling page upon page, over a period of a dozen years beginning in 1937.

He was, of course, J.R.R. (John Ronald Reuel) Tolkien, creator of the magisterial *Lord of the Rings*, the story cycle that appeared in three volumes during the 1950s—*The Fellowship of the Ring* and *The Two Towers* in 1954 and *The Return of the King* in 1955. That sprawling, eloquent saga, accounted by many to be the greatest work of fantasy ever written, a "masterpiece of its genre," as the poet W. H. Auden attested, has at last made its way into a long-awaited cinematic adaptation from director Peter Jackson. (He filmed the entire trilogy, to be released as three separate movies, during a marathon 15-month shoot.)

In the midst of the fanfare attending the first installment in a tripartite blockbuster, it's easy to lose sight of the fact that behind the $270 million budget, cutting-edge special effects

BY ALINA CORDAY TAYLOR

Tolkien (with wife, Edith, in 1966) gloomily predicted that his 1,000-page opus would prove a failure: "It will be far too large to make any money for the publisher," he declared, "let alone the author."

*"I desired dragons," Tolkien recalled of his early years, "with a profound desire."*

and star-studded cast is a figure receding into the distance—a self-effacing, disarmingly witty fellow, steeped in the arcana of historical linguistics, who favored tweed jackets and good pipe tobacco. A convivial sort, stockily built, with a pleasantly angular face and a thatch of silver hair, who relished nothing more than a night at the pub with his professorial cronies. And a confirmed homebody, happiest when pottering about his garden. (For any portrait of Tolkien, we are indebted to scholar Humphrey Carpenter, who produced the definitive biography of the author, as well as edited Tolkien's letters.)

Tolkien himself would have been bemused by all the fuss the movie is stirring up. On more than one occasion, pronouncing himself "dead stuck," he despaired of ever completing his tale, and suspected that even if he did succeed in that task, the books (his final version ran to more than 1,000 pages) would never appeal to more than a handful of readers.

His creation of the world of Middle Earth, now one of the premier destinations in the geography of the imagination, a landscape inhabited by hobbits and elves, mortal men and wizards, dwarves and orcs (goblinesque grotesques), was indisputably a labor of love. He pressed on because he was utterly entranced with the unfolding epic, as his readers, who have devoured 100 million copies of the work, translated into 25 languages, have also proved to be.

Along the way, Tolkien also succeeded in creating a brilliant, brooding variation on the ancient theme of the quest. His unlikely hero appears in the unprepossessing form of a hobbit, or halfling (a scaled-down variation on the theme of human, 3½ feet tall, distinguished from Homo sapiens by the pointed ears and furry feet). Frodo Baggins by name, he sets off against staggering odds, not to possess his grail but rather to destroy it.

In the new movie, Ian McKellen plays Gandalf, the wizard great and good.

The cursed object he carries, a golden ring invested with terrible powers, must be cast into a distant, fiery abyss, lest it fall into the hands of the evil wizard, Sauron. Should Frodo fail to destroy his burden, all the world will pass into eternal darkness, forever under the dark lord's thrall. To abjure power, not seek it, is the hero's charge. The epigraph of the trilogy, ringing with ominous cadences, has beckoned millions of readers into Tolkien's world, a destination ravishing in its immediacy: "One Ring to rule them all, One Ring to find them, / One Ring to bring them all and in the darkness bind them / In the Land of Mordor where the Shadows lie."

Mysterious as the wellsprings of the imagination are, it seems clear that Tolkien's childhood education was peculiarly suited to a boy who would grow up to produce a masterpiece of fantasy. Born in 1892 to expatriate British parents who had settled in South Africa, he lived until the age of 3 in the provincial capital, Bloemfontein, where Arthur Tolkien was employed as branch manager for a bank. After his father succumbed suddenly to rheumatic fever in 1896, Ronald, and a younger brother, Hilary, were raised in Birmingham, England. In the aftermath of her husband's death, Mabel Tolkien had converted to Catholicism—a decision that enraged staunch Protestants on both sides of the family. Consequently, the beleaguered widow and her children lived in circumstances approaching poverty, eking out an existence in a series of dismal lodgings.

Nevertheless, Mabel, a woman of decided intellectual passions, undertook the instruction of her children with creativity and dispatch. Tolkien and his brother spent a childhood immersed in the books their mother lavished upon them—Arthurian legends, George Macdonald's riveting goblin chronicles, Andrew Lang's classic fairy stories. "I desired dragons," he recalled of those years, "with a profound desire." Consequently, by the age of 7, he was trying his hand at fashioning his own stories, remembering always, with a writer's penchant for holding an editorial grudge, that his mother had amended his

PIERRE VINET/NEW LINE CINEMA; P. 76 PAMELA CHANDLER; P. 77 REGIS LEFEBURE

*"A large public," Tolkien's publisher wrote, "will be clamouring to hear more from you about Hobbits!"*

phrase "a green great dragon" to read "a great green dragon."

She was a gifted linguist as well, tutoring her precocious firstborn in German, French and Latin, before managing to enroll him as a scholarship student at a day school.

At King Edward's academy, several accomplished teachers introduced Tolkien to languages that included Greek and Middle English and rarefied offerings such as Gothic, an ancient form of German. King Edward's debating society, where role-playing was a tradition, allowed the boy plenty of scope for his prodigious intellectual talents. On one occasion, assuming the character of an Athenian ambassador to the Roman Senate, he astonished his audience by declaiming in flawless classical Greek. Then, as a barbarian envoy to that legislature, he broke into fluent Gothic, no doubt an unprecedented experience for all concerned.

In November, Tolkien Society members met in Oxford for pints and parley.

CHRISTOPHER CORMACK

Those two abiding passions, for epic storytelling and obscure, muscular languages, underlay Tolkien's career as an Oxford undergraduate. During those years, from 1911 to 1915, he would master, among other offerings, medieval Welsh and Anglo-Saxon. He also worked at generating his own language, a complex runic construction that would eventually emerge in his stories, including *The Lord of the Rings*. It was his invention of the private language he would come to call High-elven that carried Tolkien across the threshold of Middle Earth. His stories, he would explain, "were made to provide a world for the languages." "I should have preferred," he said, "to write [the entire work] in 'Elvish.'"

Tolkien would, of course, also publish a celebrated precursor to *The Lord of the Rings*. One afternoon, at some point in the early 1930s, he happened upon an empty page within the exam book he was marking and scribbled the words "In a hole in the ground there lived a hobbit." That tentative scrawl eventually metamorphosed into *The Hobbit*, published by the London firm of Allen & Unwin in 1937. The title introduces Frodo's great-uncle, Bilbo Baggins, the unsuspecting halfling who blunders into possession of the fated ring and meets up with the great good wizard, Gandalf, sounding the themes and laying the groundwork for the action of the trilogy.

*The Hobbit*, however, had its genesis in a simpler approach to storytelling. Tolkien originally conceived it to amuse his children. (Tolkien had married his childhood sweetheart from Birmingham days, Edith Bratt, in 1916, when he was 24.) His lively household—three sons and a daughter kept things in a cheerful muddle throughout the 1920s and '30s—overflowed with domestic camaraderie. Expeditions to the country, boating in a rented punt, provisioning great picnic teas, bicycling about Oxford, cultivating a sizable vegetable plot at home, filled the days of the good-natured don and his family. The rambling, gray-brick house on Northmoor Road was also a place where the spinning of yarns was prized. Tolkien had a habit of settling on a child's bed at day's end and delivering the next installment of his ongoing adventure.

He wrote for the diversion of another reader, too: his great friend, colleague and fellow frequenter of the Oxford pub scene, C. S. Lewis. The two dons, kindred spirits if ever there were, held appointments in the English department at Oxford, Tolkien as a philologist and Lewis as a medievalist.

By the early 1930s, they were distinguished academics and highly visible contributors to the Inklings, the now-legendary literary society whose members convened regularly to give readings of fiction and poetry works-in-progress. The result was the creation of two classics in the literature of adventure and fantasy, *The Hobbit* and, appearing much later, in 1950, Lewis' beloved *Chronicles of Narnia*.

The first edition of *The Hobbit*, much to Tolkien's surprise, sold out within a few months' time, by Christmas, and became a children's best-seller. His publisher, Stanley Unwin, naturally was delighted and begged for more along the same lines:

*"My work has escaped from my control," Tolkien wrote. "I have produced a monster."*

"A large public will be clamouring next year to hear more from you about Hobbits!"

As Tolkien turned to the effort that would produce *The Lord of the Rings*, he became his own worst obstacle. It would be a dozen years before he completed the daunting task he had set himself. He was, by his own admission, a world-class procrastinator, overwhelmed by demands on his time and chronically in arrears when it came to deadlines of any kind, whether it be for scholarly monographs or chapters submitted to Allen & Unwin. His penchant for perfectionism slowed his progress mightily. An attempt to make progress on the manuscript, as Tolkien would describe a particular day's struggle, commenced upon returning home from lunch at a pub and went something like this: "Gave a poor lecture, saw the Lewises and C.W. [another Inklings colleague] (White Horse) for 1/2 hour; mowed three lawns, and wrote letter to John [a son], and struggled with recalcitrant passage in 'The Ring.' At this point I require to know how much later the moon gets up each night when nearing full, and how to stew a rabbit!"

He was a stickler for detail, and this sort of pesky problem—resolving astronomical inaccuracies or tracking down a rustic recipe—could hold him up for days. (Frodo and his companions do indeed cook up a mouthwatering rabbit repast in Book II.)

He had begun work immediately after publication of *The Hobbit*. Within a year, discouraged, he would write to his publisher, "The sequel to *The Hobbit* . . . has lost my favour, and I have no idea what to do with it." By 1939, he had achieved a certain amount of progress and found himself midway through Book II. Then, in the summer of 1943, he hit another impasse. It wasn't until 1949, after a stint of 12 years and just before his 60th birthday, that he laid down his pen. "It is written," he averred wearily, "in my life-blood."

His loyal reader, Lewis, took up the typescript and was dazzled. "My dear Tollers," he wrote, using the affectionate nickname he applied to his friend, "I have drained the rich cup and satisfied a long thirst. . . . I congratulate you. All the long years you have spent on it are justified."

**Tolkien's fellow don C. S. Lewis (c. 1950) pestered his friend into finishing the trilogy.**

Despite the assessment bestowed on the work by Lewis, Tolkien was not sanguine about the prospects for his opus. He was well aware that he had moved beyond the homely charms of *The Hobbit*. "My work has escaped from my control," he informed his publisher. "I have produced a monster . . . a complex, rather bitter and rather terrifying romance." "I now wonder," he speculated gloomily, "whether many beyond my friends would read anything so long."

When Book I, *The Fellowship of the Ring*, at last appeared in the summer of 1954 (contractual wrangling and logistical delays had plagued the project), lavish praise was its due. "Those who have imagination to kindle," proclaimed one reviewer, "will find themselves completely carried along, becoming part of the eventful quest and regretting that there are only two more books to come."

But there was no shortage of detractors. The American critic Edmund Wilson savaged the work, denouncing it as "juvenile trash." Yet by the time the second volume, *The Two Towers*, appeared later that same year, W. H. Auden, writing in the *New York Times*, voiced an assessment that would prevail. "No fiction I have read in the last five years," he maintained, "has given me more joy."

Critics, writing not long after the period when Nazism had engulfed Europe and at the beginning of the cold war, were quick to seize on a defining leitmotif of the trilogy—the dark nimbus of encroaching tyranny casting a blight over the fields and forests of Middle Earth. Tolkien had little patience with this sort of analysis, however well-intentioned. The works, he pointed out, had been conceived, and partially completed, before the outbreak of World War II. He maintained a steadfast resistance to elaborate exegesis of his texts. When one reviewer, clearly of a McCarthyite cast of mind, weighed in on the subject of those fearsome minions, the dreaded orcs, their creator could not help but scoff: "To ask if Orcs are 'Communists,'" Tolkien groused, "is to me as sensible as asking if Communists are Orcs."

His sympathies, instead, lay with his readers, the audience as enthralled with the story as he was himself. For his correspondents, he was tireless,

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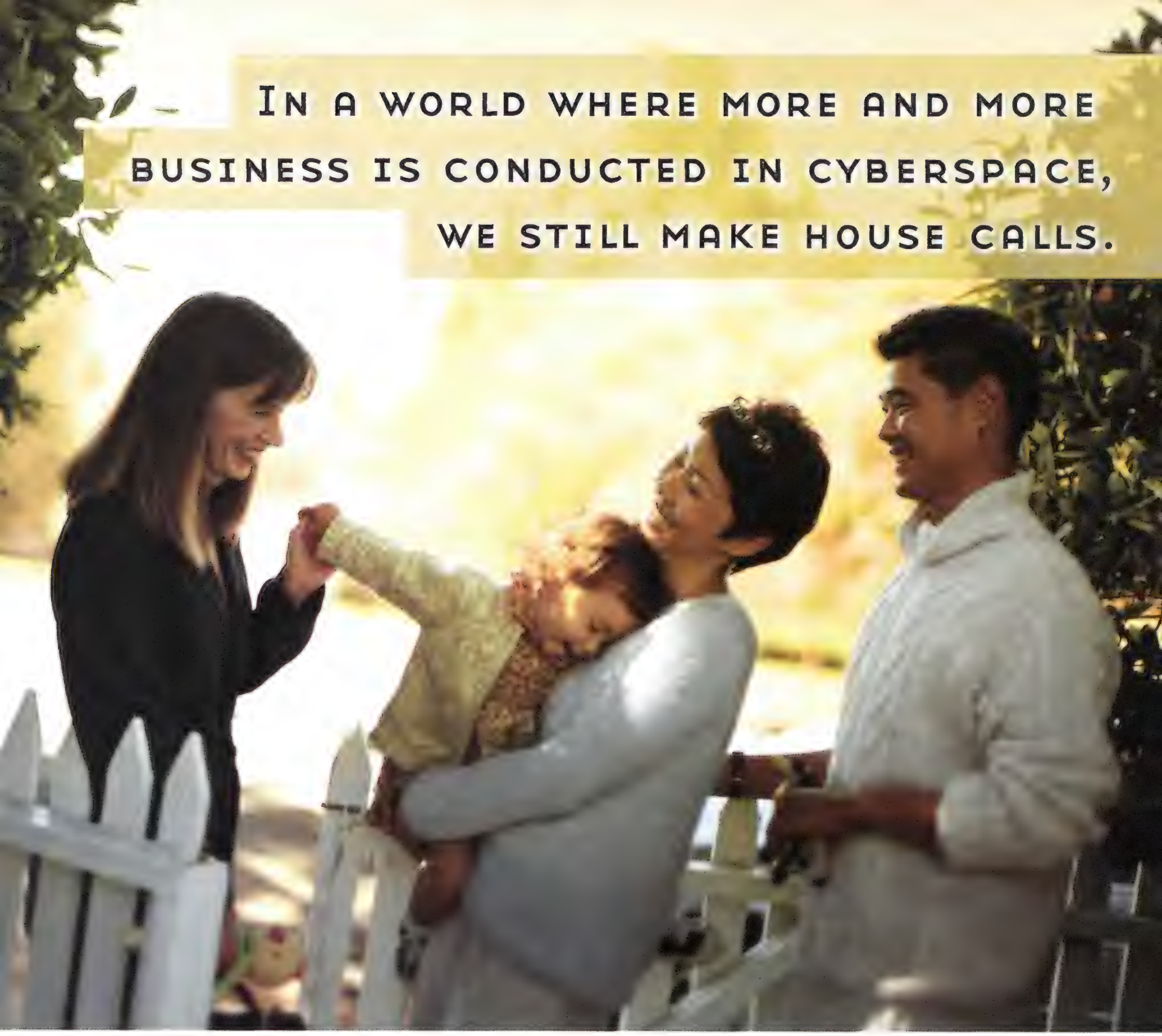


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*"Being a cult figure in one's own lifetime," Tolkien observed at one point, "is not at all pleasant."*

writing affectionate disquisitions on subjects as various as whether hobbits should have been furnished with umbrellas for rainy days, and the role of free will in the metaphysical ordering of Middle Earth.

If there were any defining experience behind *The Lord of the Rings*, it was more likely Tolkien's witnessing of the horrors of the front during World War I. As a 24-year-old out of Oxford, he had taken part in the Battle of the Somme, in 1916, where he had fallen ill with trench fever and was removed from action long enough to spare his life. Of his three friends from King Edward's, two would be killed. Tolkien would mourn their passing all his days.

And the trilogy's emotional power lies in the steadfast courage displayed by Frodo and his companions as they set off toward what seems certain doom. It is the loyalty of Frodo's band—the mysterious mortal, Strider; Legolas, noble elfin archer; the ill-tempered dwarf, Gimli; a trio of doughty hobbits, Pippin, Merry and Sam—coupled with the beneficent intervention of Gandalf—that serves to shield the ring bearer. The power of this brotherhood, rooted in unwavering devotion, goes a long way to explain the worldwide audience transfixed by Tolkien's creation.

Sales started off respectably as soon as the first volume was published and soared when the trilogy was taken up by the vast audience of American college students during the mid-1960s. Soon enough, Tolkien was besieged by correspondence from readers and pursued by fans who showed up at his door at all hours. "Being a cult figure in one's own lifetime," he complained, "is not at all pleasant."

Nevertheless, fame had its compensations. In 1972 he was ordained a Commander of the British Empire at Buckingham Palace. The proceedings, he reported, were "accompanied by some tedium," but he pronounced himself "very deeply moved by my brief meeting with the Queen."

The kind of honor Tolkien himself would have deemed most congenial is of a humbler sort. For more than 30

**Tolkien (at 41) immersed himself in medieval epics before sitting down to write.**

years, since 1969, the Oxford chapter of the Tolkien Society, an international organization committed to furthering an "interest in the life and works of J.R.R. Tolkien," has convened at sites around the university town, including a pub known as the Eagle and Child. Today, at that venerable watering hole, the group, numbering among its members a postdoctoral student, a book editor and a math teacher, debates the finer points of Tolkien minutiae. (Does a Balrog, or underworld-dwelling evil spirit, sport wings?) Settling in around the hearth, the assembled devotees meet up in a windowless sitting room that was the gathering place of the Inklings.

That chamber is graced with photographs of Tolkien and of Lewis, who died suddenly in 1963, at the age of 64. In his later years, Tolkien would feel the loss of his friend keenly. Four days after Lewis' death, Tolkien, who was then 71, would write to his daughter: "So far I have felt the normal feelings of a man of my age—like an old tree that is losing all its leaves one by one: this feels like an axe-blow near the roots." Tolkien himself would live peacefully till 1973, when he died at age 81.

On into the reaches of the 21st century, Tolkienophilia has assumed a new dimension altogether. In 1998, no sooner had news of the upcoming films been announced than scores of Web sites began to appear. In all, more than 600 new e-addresses emerged, each focused on news of the upcoming film release. (Additionally, hundreds of sites devoted to Tolkien's works already existed.)

Ultimately, however, the modest testimonial Tolkien wrote for himself comes closest to offering a window on his essential temperament and bearings. Not surprisingly, he lived in peaceable consonance with his favorite creations. "I am in fact," he wrote, "a hobbit in all but size. I like gardens, trees and unmechanized farmlands: I smoke a pipe and like good plain food (unrefrigerated), but detest French cooking. I am fond of mushrooms (out of a field). . . . I go to bed late and get up late (when possible). I do not travel much."

He would find himself right at home before a hobbit hearth, feet shod in scuffed slippers, taking up a tankard of ale and reciting tales, most especially stories steeped in rustic folkways and rooted in ancient lays, treating of dragons slain and evil vanquished.

*Alina Corday Taylor is based in London.*

TIMEPIX

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# Silk Robes Cell Phones

THREE DECADES AFTER FRANCES FITZGERALD WON A PULITZER PRIZE FOR *FIRE IN THE LAKE*, HER CLASSIC WORK ON VIETNAM, SHE RETURNED WITH PHOTOJOURNALIST MARY CROSS. WHAT THEY DOCUMENTED IN THEIR NEW BOOK, *VIETNAM: SPIRITS OF THE EARTH*, FROM WHICH THE FOLLOWING IS ADAPTED, IS A DYNAMIC SOCIETY HOLDING ON TO ITS PRECOLONIAL PAST AS IT CONFRONTS THE 21ST CENTURY.

ON THE FLOODPLAIN OF THE RED RIVER DELTA IN NORTHERN VIETNAM, the land is flat, as though leveled with a rolling pin. From a road that runs along the top of a dike you can look out across an enormous vista of rice fields. In the middle distance there may be a walled village or a mountain, such as those that appear in Sung landscape paintings, rising abruptly out of the plain. Except along the dike itself there are no trees—just rice fields extending as far as the eye can see. In the spring, when the rice is only half-grown, you can make out the small dikes that divide the paddies into a pale-green patchwork; the water shines through the rice like shards of a mirror in the sun. From dawn to dusk there are figures in the landscape: women up to their knees in water pulling weeds; a farmer netting small fish or crabs; a boy tending his buffalo; men and women moving water from one paddy to another with a rhythmic dip and swing of straw baskets. There are no buildings in the rice fields, but there are cemeteries, many with large family tombs.

Driving across the Red River Delta last year, Mary Cross, an American photographer, and I stopped at a cemetery with several handsome old tombs and a group of new earthen graves on mounds above the paddy land. We could see a procession coming down the lane from a nearby village to the music of stringed instruments, gongs and drums. In the lead were people with banners and flags from the local pagoda, and after them two lines of elderly women in brown and purple tunics carrying unlit straw torches and a long scroll with Buddhist iconography. Next came four men carrying a shrine with a photograph of the deceased—a patriarch in his 70s—an incense burner, and offerings of fruit and flowers. The musicians followed. Then, amidst a crowd of family members in white headbands, six men

A dozen miles outside Hanoi, a young villager takes her handmade baskets to the capital to sell on a street corner. Used to transport such traditional goods and food from villages to cities, as well as serving as human-powered cabs in urban areas, bicycles remain a major mode of transportation in Vietnam.

Adapted from
*Vietnam: Spirits of the Earth.*
© 2001 by Frances FitzGerald
Photographs by Mary Cross

Smithsonian journeys

In the funeral procession the writer witnessed, women carry a 30-foot scroll. Covered with Buddhist scripture, it symbolically eases the passage of the dead into the afterlife; the women's unlit straw torches represent illumination for that journey. Vietnam's revival of interest in Buddhism closely followed the country's economic restructuring.

rolled an ornate hearse with a double roof turned up, pagoda-style, at the corners. A middle-aged man, apparently the deceased's eldest son, walked backward in front of it in filial deference. When the procession reached the cemetery, incense sticks were lit, prayers were said and the family wailed as the coffin was lowered into the ground. What we were witnessing, I realized, was a ceremony from pre-colonial times.

Early March, it turns out, is the season for village festivals in the Red River Delta, and, while exploring the countryside around Hanoi, I often came upon processions of people in brightly colored silk robes marching to the music of flutes and drums with parasols overhead and young men carrying a palanquin with the gilded red-and-gold throne of their village's patron spirit. In central Vietnam, on the road between Hue and Da Nang, Mary saw a fisherman launching a decorated paper boat into a lagoon as an offering to the sea spirits. On an island in the Perfume River, near Hue, we watched a mother and daughter in red and blue robes dance before an outdoor altar to thank a favorite goddess for lifting a spell that had made the mother ill. All over the country, the Buddhist pagodas we visited were filled with Vietnamese pilgrims and tourists.

Watching such ceremonies, I sometimes imagined that all the upheavals of the past century, from the French conquest to revolution and two major wars, had been no more than a parenthesis in Vietnamese history. This is not the case: Vietnam has been deeply marked by all of these events. Still, there has been an astonishing revival of traditional social and religious practices throughout the country in the past few years. What is more, the revival is most pronounced in the north—the region that most enthusiastically supported the revolution and has had a Communist government for half a century.

During the war, I worked as a journalist in South Vietnam. To most American

Watching the ceremonies, I imagined a century of upheavals as no more than a parenthesis in Vietnamese history.

correspondents, the north was terra incognita, and we thought of it mainly as the source of the huge, disciplined armies that marched south to engage the American troops. What we tended to forget was that the north is the oldest part of Vietnam and the wellspring of its traditional culture. Vietnamese civilization began there 3,000 to 4,000 years ago, but it was only in the 15th century that the Vietnamese moved beyond the confines of the Red River Delta and began a process of conquest and colonization that took them south to the Gulf of Siam. The Mekong Delta, however, was marshland, and by the time the French armies arrived in the mid-19th century, it was still a sparsely settled frontier. In the north, Vietnamese society had a high degree of organization: extended families or clans that worshipped their ancestors back nine generations or more, and close-knit, physically concentrated villages. But for reasons of history and geography the Vietnamese went through what one American anthropologist in the 1960s called "a cultural washout" as they moved from north to south: their villages became less cohesive, their clans less extensive, their rituals simpler. In the north there are gods, spirits and ghosts that do not exist elsewhere.

Hanoi is the ancient imperial capital of Vietnam, but visitors often don't think of it as such, for it's an attractive, somewhat disheveled French colonial city surrounded by congeries of newer buildings. An old shopping quarter, known as the 36 Streets, plus a few heavily restored temples and the walls of a citadel are almost all that remain of its precolonial past. Traditionally the Vietnamese were not city-builders. The real center of their life lay in the thousands of villages scattered out across the alluvial plain.

These days the roads just outside of Hanoi, now a city of two million people, have become corridors so built up with houses, shops and small businesses that it is difficult to catch even a glimpse of the landscape beyond. But from the top of a dike, you can see the old settlements, surrounded by hedges or brick walls, commanding their rice fields like fortresses. Finding an entrance to them is sometimes a puzzle, for the main roads tend to pass them by. But within the villages is a world quite different: a labyrinth of walled lanes and alleyways. Through gates in the walls you can see houses set in small courtyards; some are built in the old style: open-fronted with a sloping red-tile roof supported by heavy wooden pillars. But even in houses of modern design an ancestral altar invariably dominates the front room. These days the biggest buildings in the villages tend to be schools or government offices, but every village has a *dinh*, or communal house—a temple with a pond in front and a shade tree—as well as a Buddhist pagoda or shrine.

In precolonial times, each village paid taxes and provided laborers to build dikes and soldiers to fight wars, but otherwise governed itself. Separated from each other by expanses of paddy land, the villages were closed communities and their relations with each other

Ten days before her nuptials, Vu Thu Hien tries on a wedding dress in Hanoi. Though ruffles like these in Thanh Nhan's shop are the current rage in Vietnam, tradition is never far away. The glass case on the right contains red lacquer wedding boxes, into which tea, rice wine and sweet cakes are customarily placed, to be shared by the bride's and groom's families during the wedding ceremony.

A broom maker plies her craft at her home in the village of Phuong Trung, outside Hanoi. Like other villages in northern Vietnam, Phuong Trung is known for a particular handicraft—in this case, brooms and conical hats. Newspapers on the shutters help protect the house from cold, testament to the country's wide range of temperatures as well as its continuing poverty.

were formal. The heart of the village was the dinh, which served as the meeting place for the governing Council of Notables and the sanctuary for the guardian spirit, or genie—usually the spirit of a legendary Vietnamese hero. Every year, the villages held festivals celebrating their genies with rites that symbolized, and helped to maintain, the ties that bound the members of the village together and connected the village to the state, to nature and to the supernatural world.

Village societies were made up of patriarchal extended families, each of which had a lineage hall for its genealogical records and the celebration of ancestral rites. The villages included numerous voluntary organizations: credit associations, Buddhist societies and social clubs for the Confucian literati, for wrestlers, singers, bird breeders and the like. But the village itself transcended these groupings. It was a hierarchy, but not just one of birth, for adult males could attain status through educational achievement, personal virtue and contributions to the welfare of the village. The richer a family was, the more it had to contribute, and because the village economy was inelastic, a family, it was said, could not remain wealthy for more than three generations.

Much has happened to the villages in the past hundred years. During the colonial period, the French imposed their own administrative and taxation systems and inadvertently created great inequalities of wealth and power; the traditional polities slowly broke down. In 1954, after the defeat of the French at Dien Bien Phu, the new government carried out a brutal but effective land-reform program and replaced the village elites with revolutionary councils, in many cases made up of people from the poorest families. Government-sponsored mass organizations for women, farmers, war veterans and youth replaced the traditional village associations. Later, the government gradually collectivized the family farms and merged the villages into larger administrative units, building health clinics and schools. In the initial stages, the cooperatives worked well enough, and during the American war they provided social insurance. But after the war, as the government attempted to collectivize the south, the whole Soviet-style system failed miserably. Rice

Walking down a Dong Ky alleyway, we could see men in back rooms laboring to cut huge logs with gasoline-driven saws.

production did not keep pace with the growth of population, and eventually the country could no longer feed itself. In 1986, the government dismantled the cooperatives and reinstituted private enterprise and family farming. Vietnam is still a very poor country but it is a good deal better off than it was in the early 1980s.

In medieval times most villages had their own particular handicraft industry—and they do today. Driving in the countryside you can often see raw materials stacked up by the roads: wood near villages that make toothpicks or matches, bundles of reeds and straw by those that weave baskets or mats. Some of these industries are new, but some villages continue to produce the same handicrafts they did centuries ago. Bat Trang, just outside of Hanoi, has long been famous for its blue and white pottery; Chuong, in Ha Tay province, for the leaf covering for conical hats.

In recent years a few village industries have become major business enterprises. The village of Dong Ky, in Bac Ninh province, has used its ancient woodworking skills to produce inlaid furniture for sale to Thailand, China and Taiwan. Some shops employ 50 or 60 workers and take in hundreds of thousands of dollars a year. Three- and four-story houses have sprouted up amid traditional courtyard houses, giving the village with its winding cobblestone streets the look of a medieval town. Walking down an alleyway, Mary and I could see men in back rooms and sheds laboring to cut huge logs with gasoline-driven saws. In a dingy front room, the young manager of one family business showed us samples of his furniture and explained how he had coped with the Asian economic crisis of 1997 and what he was doing to fill the needs of an expanding Taiwanese market. He took us back to his family compound, where his father, whom we called by his family name, Mr. Vu, gave us tea in the main house, in front of the ancestral altar.

A man in his 70s, Mr. Vu discoursed on various subjects, including his service in the Viet Minh during the French war and the continued relevance of Confucian values. But his favorite subject was his family. While his daughter-in-law, a woman in her 20s, clad in tight-fitting blue jeans, went about on errands, he told us that the Vu family had come from China 14 generations before and that the house he lived in had been built by his great-grandfather, a noted Confucian scholar. Mr. Vu had sent his eldest sons to university in Hanoi; one, he said proudly, was now a doctor and another an architect. From Mr. Vu we gathered that there were seven clans in the village, each of which kept genealogical records, and that everyone knew his or her ranking

In Hanoi's old quarter, Bao Nguyen painstakingly copies photographs by hand—and not just those of Hollywood stars of yore, although these are clearly popular. Small shops of artisans and tradespeople crowd this section of Hanoi, also known as the 36 Streets.

Despite fast play in the human chess game at Quang Ba's festival, a queen got bored and read a movie magazine.

Ao dais make striking uniforms for four university students heading home after classes. Long gloves and hats provide welcome protection from the sun in a land where a suntan is not considered fashionable; masks serve as barriers to dust and exhaust.

in them. In other words, neither revolution nor war nor international business success had altered the family structure of Dong Ky.

As we were leaving the village, we stopped to watch a wrestling match in a small, open-air stadium. High school athletes were competing with wrestlers from a neighboring village, and the crowd was cheering and groaning with the fortunes of the local boys. It was a completely modern scene, but the tournament, we learned, was part of the spring festival celebrating the patron genie of the village.

I happened upon several such festivals. The first was in Quang Ba, beyond the West Lake of Hanoi, a village that once grew flowers but had been built over and transformed into a residential neighborhood where many businessmen and foreigners live. The dinh, a fine example of traditional architecture, just recently restored, had a lacquered and gilded altar decorated with flowers and miniature orange trees. One of the chief organizers, Mr. Vu Hoa My, welcomed me in rusty French and told me that the guardian spirit was Phuong Hung, an eighth-century king who had led an uprising against the Chinese. Mr. My was, as it turned out, a retired government and Communist Party official who, he said, had recently made money in real estate. He had given generously to the restoration of the dinh. I arrived just as the colorful procession returned from the pagoda to the dinh. A couple of hundred people, the women in *ao dais*, or long tunics with pants, the men in Western dress, had gathered to greet it. After the throne of the genie had been replaced in the dinh, a group of elderly men in blue Chinese-style robes said prayers before the altar. Families came forward out of the crowd with trays piled high with rice, vegetables, fruits and cooked chickens. Leaving a symbolic morsel on the altar, they asked the genie to bless their meal, then went outside to have their photographs taken. Afterward, amid a genial hubbub, the entertainment began. The village chess masters set up a human chess game in the courtyard with high school students in robes representing the pieces and moving from square to square as directed. The play was fast, but one of the queens got bored and read a movie magazine. Meanwhile, a flock of ducks was let loose in the pond, and little boys competed to capture them with long-handled nets—or simply by diving in and grabbing them.

## "When we collectivized, we said the festival was feudalistic. Now we bring the festival back and call it traditional."

At a simple luncheon Quang Ba held for neighboring villagers, Mr. My told us that for many years the dinh festivals had not been celebrated in this way. But now, he said, the government favors the ceremonies and traditional games because they help to create strong communities. Listening to him, I began to think that the festivals were some kind of government effort to resurrect "tradition" for state purposes. Later I discovered that it was the villagers who had insisted on reviving their festivals—along with many of their other religious practices.

Vietnam never had a cultural revolution, as China did, but in the period of "building socialism," government officials curbed the old rites and banned the expensive feasting that had accompanied them. The elaborate family ceremonies, the cult of the village genie and other spirit cults were variously denounced as feudalistic, wasteful and superstitious. By the mid-1970s, even ancestor worship seemed to be on the wane. But then came the failure of collectivization and the economic reforms. Farmers immediately began to put more time and resources into their family rituals. When they had some money, they refurbished their dinhs and began to celebrate village festivals. According to anthropologists, the villagers were readjusting to the return of family farming and the need for voluntary cooperation among households. The family and village ceremonies helped this process along.

In the early 1990s, the government gave many dinhs landmark status and helped to restore them. It also gave its blessing to the dinh festivals. "When we collectivized, we said the festival was feudalistic. Now we bring the festival back and call it traditional," a villager told an American development expert, with some irony.

Perhaps the most remarkable development in Vietnamese cultural life over the past decade or so is the revival of Buddhism throughout the country. Mahayana Buddhism came to Vietnam in the second century A.D. and established itself during the period of Chinese rule. The first Vietnamese emperors relied upon Buddhist monks as advisers and built great monasteries, but after the monarchy adopted a Chinese-style administration, the Buddhist brotherhoods accommodated to the Confucian state.

For the Vietnamese, as for the Chinese, Confucianism was a ritualized way of life, a set of social relations and a method of governance; it prescribed a single right way of doing things, which would lead to harmony. In Buddhism, by contrast, the focus is squarely on the individual and on his existential plight in the cycle of life and death. Rather than an alternative to the Confucian system, Buddhism was a complement to it, offering the Vietnamese an internal life and a morality that lay beyond the Confucian system of duties and obligations. Yet it had a social function as well. "The Vietnamese are Confucians in peacetime, Buddhists in times of trouble," goes an old adage. More precisely, Buddhism came to the fore when the Confucian state went into decline, filling the vacuum left by the official religion.

The revival of Buddhism, like that of family and village rites, began in the mid-1980s and developed as the market economy grew. In the north it followed almost half a century of quiescence—a period in which the state was strong and many believed that Communism held all the answers. Yet since 1989 large numbers of historic pagodas have been restored or rebuilt and at least ten of them have become major pilgrimage sites and tourist attractions for the Vietnamese. Some are eclectic in nature. They are temples in which Buddhism has melded with Taoism and folk beliefs, and where people make offerings of fruit and flowers, taking out the spiritual equivalent of insurance policies on their houses or businesses, or on the health of their children.

Two faces, one country: despite the extreme poverty of the Black Thai tribe, the clothing of members (like this vegetable seller in Dien Bien Phu, top) is often adorned with silver clasps. Bottom: Plastic rain capes are almost as ubiquitous in Vietnam as cigarettes.

Even if they have earthly insurance policies, people will doubtless always pay their spiritual premiums of fruits and flowers.

But some of the orthodox Mahayana temples are equally popular. On weekdays most of the visitors are women from Buddhist associations traveling together on buses from one temple to the next. Quiet and serious, they listen as a guide explains the history and the religious significance of the sculptures and carvings. Some ask questions about the iconography, and at the main altars of the pagodas they stop to light joss sticks and pray. On weekends, the crowds swell with family groups, busloads of civil servants and factory workers and groups of young people in a holiday mood. Clearly these people are exploring their country—a luxury the Vietnamese have never enjoyed before—and watching them examine the shrines and grottos, I could imagine them simply as museumgoers, except that many of them, too, stop to pray.

In Vietnam the revival of the rites does not mean a return to the past. People reconstruct their lineage halls and their dinh ceremonies, but they do not therefore reject public schools, agricultural machinery or the considerable improvement in the status of women over the past 50 years. People may go to pagodas to pray for good health or fortune, but they also go to health clinics and learn business skills. It is just that everything in Vietnam has a spiritual dimension, and in a market economy people would doubtless continue to pay their premiums of fruit and flowers even if they had earthly insurance policies. Then, too, the rites themselves have changed with the times. The dinh ceremonies now include women and young people. Among the paper offerings people burn for their ancestors are not only paper shoes and shirts but also paper TVs and paper cell phones. What we are witnessing is the traditional order reasserting itself in order to deal with what Westerners blithely call modernization. The Vietnamese are going back to tradition and forward at the same time. More precisely, they are reclaiming and refashioning their traditions in order to move on.

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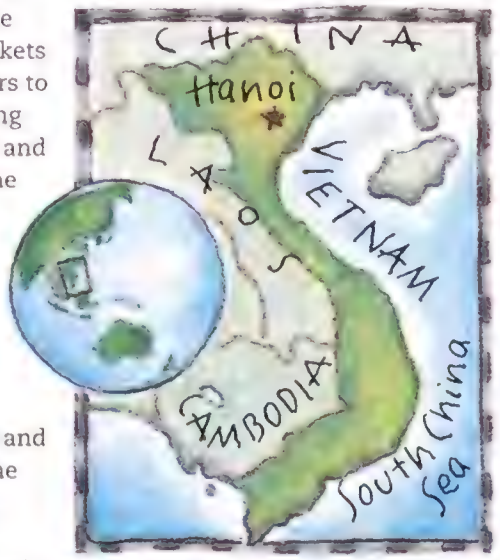
ELIZABETH WOLF

***Care to experience the new Vietnam, where a return to ancient customs and traditions is shaping the future of this once war-torn country?***

**"IT IS AN INTERESTING** time to go to Vietnam," writes veteran foreign correspondent Frances FitzGerald in her new book, *Vietnam: Spirits of the Earth.* The Vietnamese say theirs is a land that resembles a bamboo pole balancing rice baskets at either end. Tours to this 1,000-mile-long country are many and common. But a fine journey can be made by striking out on your own, as our author did, and exploring some of the more secluded Buddhist pagodas and quiet villages of the north. Be advised, though, that Vietnam's roads connect cities and largely bypass its thousands of villages, so we recommend the Vietnamese guidebook *Historical and Cultural Sites Around Hanoi,* by Nguyen Vinh Phuc, which is available in Hanoi bookstores. One popular northern pilgrimage site, 40 miles south of Hanoi, is the Perfume Pagoda, a complex of ancient temples and shrines set deep in the limestone grottoes along the Yen Vi River. In the village of Te Tieu, you can hire a boat and meander the river through misty green hills and seek quiet inspiration from a land that in the American mind has long been synonymous with war.




◆ **INSIDE TIP:** One of the most beautiful of the Buddhist temples is the But Thap Pagoda in the Bac Ninh Province west of Hanoi. Its inner courtyard is especially enchanting.

◆ **CHOICE COLLECTIBLE:** In the village of Dong Ho, just 18 miles east of Hanoi, look for crafted paper offerings—shoes, bicycles, even appliances—that are burned for the afterlife comfort of the ancestors.

◆ **YOU SHOULD KNOW:** Dress modestly and avoid wearing shorts or sleeveless shirts, especially in the countryside.

◆ **FOR THE GOURMAND:** Don't miss the spring rolls; the Vietnamese are masters in the preparation of these scrumptious delicacies.

THE FRACTURE-FIGHTERS. WOMEN AGAINST OSTEOPOROSIS.

# THE WARRIOR

*Determined not to inherit the curve in her grandmother's back.*

# THE ALLY

*Prescribes the only therapy proven to reduce spinal fractures in the very first year.*

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*Nonhormonal prescription medicine*

If you've lost enough bone, you can be vulnerable to spinal fractures you may not always feel. Eventually, spinal fractures may cause your back to curve into dowager's hump. If you've seen that curve in your grandmother, mother or aunts, you may be at risk for osteoporosis.

Some other risk factors include being Caucasian or Asian or smoking. Be aware, even extra calcium and exercise may not be enough to protect you from bone loss and fracture.

In the battle against postmenopausal osteoporosis, your strongest ally is your doctor. Ask about Actonel. Not only can Actonel reverse bone loss, it helps your bones become more fracture resistant.

You should not take Actonel if you have low blood calcium, severe kidney disease, or cannot sit or stand for 30 minutes. Stop taking Actonel and tell your doctor if you experience difficult or painful swallowing, chest pain or severe or continuing heartburn because these may be signs of serious upper digestive problems. Side effects are generally mild or moderate and may include stomach pain or upset, or constipation. Follow dosing instructions carefully.

**To learn more about Actonel and osteoporosis, talk to your healthcare provider, call toll-free 1-877-Actonel, or visit www.actonel.com.**

Women today don't have to accept bone loss the way our grandmothers did. Be a warrior. Fight fracture.

# HER RESULT

*Only Actonel is proven to reduce spinal fractures in the very first year*

Turn the page for additional information on Actonel and osteoporosis.

# Important Information for You About Actonel and Osteoporosis

## ACTONEL® (AK-toh-nel) Patient Information generic name: (risedronate sodium tablets)

This leaflet tells you about ACTONEL and how to take it. Read this information carefully before you begin taking ACTONEL. It is important to take ACTONEL exactly as recommended. Read this information each time your prescription is refilled in case new information is available. This leaflet does not take the place of discussions with your health care provider because it does not describe all the risks and benefits of ACTONEL. ACTONEL can be prescribed and dispensed only by licensed health care professionals; they have information about your medical condition and more information about ACTONEL. Talk with your health care provider about ACTONEL before you start taking the medicine and during your regular checkups.

## What is the most important information I should know about ACTONEL?

Take ACTONEL once a day or as directed by your health care provider. You must take ACTONEL exactly as recommended so that it will work and to reduce the risk of harmful side effects (see ***How should I take ACTONEL?***).

## What is ACTONEL?

ACTONEL is a drug to treat and prevent osteoporosis. ACTONEL can reverse bone loss and help reduce the risk of breaking bones (fractures) by stopping further loss of bone and increasing bone mass. ACTONEL is not a hormone like estrogen (hormone replacement therapy used in postmenopausal women). Therefore, it does not have all the benefits and risks of estrogen.

## What is osteoporosis?

Osteoporosis is a disease that causes bones to become thinner. Thin bones can break easily. Most people think of their bones as being solid like a rock. Actually, bone is tissue, just like other parts of the body–your heart, brain, or skin, for example. Bone just happens to be a harder type of tissue. Bone is always changing. Your body keeps your bones strong and healthy by replacing old bone with new bone.

When someone has osteoporosis, the body removes more bone than it replaces. This means that bones get weaker and are more likely to break. Osteoporosis is a bone disease that is quite common, especially in older women. However, young people and men can develop osteoporosis, too.

Osteoporosis can be prevented, and with proper therapy it can be effectively managed.

## How can osteoporosis affect me?

In the early stages of osteoporosis, people often have no pain or other symptoms. As bones become weaker, they are more likely to break when someone falls–or even without a fall. While osteoporosis can affect any bone, the spine, wrist, and hip are the bones most likely to break. People with osteoporosis may "shrink" (lose height), develop a curved back, or have severe back pain that forces them to limit their activities.

## Who is at risk for osteoporosis?

Many things put people at risk for osteoporosis. Some are just part of who you are, like being a woman, going through menopause or already being postmenopausal, being Caucasian or Asian, being thin, or having a family history of osteoporosis. Other factors include not getting enough calcium or vitamin D, having an inactive lifestyle, smoking cigarettes, or drinking too much alcohol. Long-term use of cortisone-type medicines (such as prednisone) can also cause osteoporosis in both men and women of all ages.

## Who should not take ACTONEL?

Do not take ACTONEL if you have:

- low blood calcium (hypocalcemia)
- the inability to sit or stand upright for 30 minutes
- an allergy to ACTONEL
- severe kidney disease

If you are pregnant or nursing (breast-feeding), or have severe kidney disease, talk to your health care provider before taking ACTONEL.

## How should I take ACTONEL?

Take ACTONEL once daily or as directed by your health care provider. It is important to take ACTONEL as recommended so that you can benefit from the medicine. Following these recommendations also helps ACTONEL work correctly and helps you avoid possible irritation of the esophagus, the tube connecting the mouth and the stomach.

Take one ACTONEL tablet first thing in the morning while in an upright position (sitting or standing) before you have anything to eat or drink (other than plain water). Do not eat or drink anything except plain water for 30 minutes after taking ACTONEL.

## Remember:

- Take one ACTONEL tablet with 6 to 8 ounces (about 1 cup) of plain water (not coffee, tea, or juice, and ***especially not milk or other dairy products***).
- After taking ACTONEL, wait at least 30 minutes before lying down. You may sit, stand, or do normal activities like read the newspaper, take a walk, etc.
- Swallow ACTONEL whole rather than chewing it or waiting for it to dissolve.
- If you take vitamins, calcium, and antacids, take them at a different time of the day from when you take ACTONEL, at least 30 minutes after you take ACTONEL.
- If you forget to take ACTONEL, do not double your next dose. Simply take ACTONEL as you normally would for your next dose.
- You should continue to take ACTONEL for as long as your health care provider recommends. ACTONEL can treat your osteoporosis or help keep you from getting osteoporosis only if you continue to take it.

## What should I avoid while taking ACTONEL?

Foods and some supplements and medicines can stop your body from absorbing ACTONEL. Therefore, do not take these products at or near the time you take ACTONEL: food, milk, calcium supplements, or calcium-, aluminum-, or magnesium-containing medicines, such as antacids (see ***How should I take ACTONEL?***). Ask your health care provider if there is anything else you should avoid while taking this medicine.

## What are the possible side effects of ACTONEL?

Most people have no problems with ACTONEL. However, ACTONEL may cause side effects. Side effects from ACTONEL are usually mild. They generally do not cause patients to stop taking ACTONEL.

In studies of ACTONEL in patients with osteoporosis, the most common side effects were reported about as often with ACTONEL as with placebo (sugar pill). They include upset stomach, abdominal (stomach area) pain, constipation, diarrhea, gas, and headache.

This summary does not include all the possible side effects of ACTONEL. Talk to your health care provider about possible side effects. Tell your health care provider if you feel discomfort in your stomach or esophagus (the tube connecting the mouth and the stomach). Stop taking ACTONEL and tell your health care provider right away if swallowing is difficult or painful, if you have chest pain, or if you have severe or continuing heartburn.

# Other important information

## How can I tell if ACTONEL is working?

ACTONEL can build bone mass in most people who take it, even though they won't be able to see or feel a difference. Your health care provider may measure the thickness (density) of your bones to check your progress. This is called a bone mineral density measurement.

## What if I have other questions about ACTONEL?

If you have questions about ACTONEL, ask your health care provider or pharmacist.

If you want to read more about ACTONEL, ask your health care provider or pharmacist for the labeling written for health care professionals.

For more information, call 1-877-ACTONEL (toll-free) or visit our web site at www.actonel.com.

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PRESENCE OF MIND

# Prince of Tides

BEFORE "ECOLOGY" BECAME A BUZZWORD, JOHN STEINBECK PREACHED THAT "MAN IS RELATED TO THE WHOLE THING"

BY BIL GILBERT

ON THE OCCASION OF THE 100TH ANNIVERSARY OF his birth next month, John Steinbeck will be justly celebrated as a major American writer. Between 1929 and his death in 1968, Steinbeck published nearly 30 books. His masterpiece, *The Grapes of Wrath*, still sells about 200,000 copies a year. There are students of our cultural affairs who think this account of dispossessed Oklahoma farmers in the dust bowl years and *Uncle Tom's Cabin* are the two novels that most affected the American conscience.

But Steinbeck's powerful social realism is by no means his only claim to greatness. He has also significantly influenced the way we see and think about the environment, an accomplishment for which he seldom receives the recognition he deserves. Not that Steinbeck or his fictional characters were green activists, passionately concerned with issues like water quality and clean air. Yet well before ecology was a subject of much public interest, Steinbeck was artfully introducing readers to ideas about all lifeforms—most definitely including our own—being interdependent parts of an organic whole.

He explained this belief most directly in the *Sea of Cortez*—written nearly 30 years before the first Earth Day—an account of what he and some companions did and thought about while they were collecting small marine animals in the Gulf of California. Many believe this was Steinbeck's best work of nonfiction and one of the most important nature books of the 20th century.

It's not clear whether Steinbeck's thinking influenced Aldo Leopold, Rachel Carson and the other natural scientists and philosophers who formulated the now-prevailing environmental dogma. But the we-are-all-in-this-together theme was a distinctive one in some of his strongest work. And Steinbeck's definition of "we," which included everything from sea slugs to the stars, anticipated ideas about the web of life, the rights of rocks and other tenets of current holistic ecology.

Steinbeck came rather late to his interest in the biological sciences. Born and raised in Salinas, California, he was part of a rather bookish, never very affluent, white-collar family. Contemporaries remembered him as something of a loner and an avid reader of romantic allegories and legends, particularly those having to do with King Arthur. He and his younger sister, Mary, sometimes dressed up and played at being residents of Camelot. But like small-town kids everywhere always looking for something to do, he often got out into the surrounding countryside. Alone or with pals, Steinbeck roamed the long Salinas Valley and the shores of the Monterey Peninsula, where his family had a summer cottage.

PAT HATHAWAY COLLECTION

Growing up, Steinbeck always enjoyed the outdoors, but he didn't become seriously interested in biology until he went off to Stanford.

There's ample evidence in much of what he later wrote that Steinbeck was deeply stirred by those surroundings and was a sharp, accurate observer of common natural detail. Consider this, for example, from *The Grapes of Wrath*. "Beside the road, a scrawny, dusty willow tree cast a speckled shade . . . its poor branches curving over the way, its load of leaves tattered and scraggly as a molting chicken. . . . He knew there would be shade, at least one hard bar of absolute shade thrown by the trunk, since the sun had passed the zenith. . . . He could not see the base of the tree, for it grew out of a little swale that held water longer than the level places."

After enrolling at Stanford University in 1919, Steinbeck

Biologist Ed Ricketts (photographed by his son Ed not long before the former died in 1948) had a significant influence on Steinbeck.

dropped in and out (because he was broke or bored) for six years, working between stints as a ranch hand, a radio salesman and on surveying and dredging crews. He showed no interest in earning a degree and, for the most part, attended only classes whose subjects engaged him at the time: journalism, literature and creative writing, among others. In the summer of 1923, he took a course in field zoology offered at the Hopkins Marine Station, a Stanford branch in Pacific Grove. The class, a survey of animal life on the shore of Monterey Bay, introduced Steinbeck to the belief that everything in nature was connected to everything else.

In 1925 Steinbeck went to New York to establish himself as a serious writer of fiction. After several disheartening months, he returned to California where he kept on writing, married Carol Henning, the first of his three wives and, in 1930, met a biologist named Ed Ricketts, who became his best friend and profoundly influenced his intellectual outlook. Ricketts had grown up in Chicago and attended the university there, where he was a disciple of W. C. Allee, another prominent early ecologist. He went to the Monterey Peninsula to establish the Pacific Biological Laboratory, which he eventually moved to Cannery Row, along the waterfront. Ricketts earned a living by supplying slides and specimens of marine animals for classroom use. That business provided him with sufficient means and leisure to pursue his true passion: studying the "good, kind, sane little animals" who inhabited intertidal zones along the northern Pacific coast.

Ricketts was a firm believer in "non-teleological" or "is" thinking. Such an approach, he said, "concerns itself primarily not with what should be, or could be, or might be, but rather with what actually 'is.'" It was the extent to which Ricketts practiced his beliefs that impressed Steinbeck. Ricketts accepted people as they were, flaws and all. Steinbeck was so intrigued that in many of his novels he created characters somewhat modeled on Ricketts—the kind, ruminative Preachers and Docs seeking what is.

First and last a storyteller, Steinbeck often gave the impression that he and Ricketts spent most of the 1930s carousing and speculating about metaphysics. In fact, during the decade after they met (Ricketts was killed in 1948 when his car was hit by a train), Steinbeck wrote the six books upon which his reputation as a novelist still rests: *Tortilla Flat*, *In Dubious Battle*, *Of Mice and Men*, *The Red Pony*, *The Long Valley* and *The Grapes of Wrath*. The last appeared in 1939, the same year Ricketts published his own masterwork, *Between Pacific Tides*, an ecological reference still highly regarded by marine biologists today.

Early in 1939, Steinbeck and Ricketts chartered a trawler, the *Western Flyer*, hired a crew and set off for the Gulf of California, also known as the Sea of Cortez. They spent six weeks observing and collecting along the Baja California shore. Part of the *Sea of Cortez*, which was published in 1941, is a listing of specimens and their habitats. But the catalog is preceded by a vivid narrative that contains many observations of the coastal people and animals they encountered.

On one occasion, Steinbeck writes about the local residents asking him why he always went about picking up and pickling little animals. "We could have said, 'We wish to fill in certain gaps in the knowledge of the Gulf fauna.' . . . [but] the meaningless words of science and philosophy, are walls that topple before a bewildered little 'why.' Finally we learned to know why we did these things. The animals were very beautiful. Here was life from which we borrowed life and excitement. In other words,

In the 1940 movie version of *The Grapes of Wrath*, Henry Fonda (with John Carradine, left, and John Qualen) played Tom Joad.

ED RICKETTS JR./PAT HATHAWAY COLLECTION; PHOTOFEST

we did these things because it was pleasant to do them."

At another point, after a day spent working the tide pools, Steinbeck muses: "It seems apparent that species are only commas in a sentence, that each species is at once the point and the base of a pyramid. . . . One [species] merges in another, groups melt into ecological groups until the time when what we know as life meets and enters what we think of as non-life: barnacle and rock, rock and earth, earth and tree, tree and rain and air . . . most of the feeling we call religious, most of the mystical outcrying which is one of the most prized and used and desired reactions of our species, is really the understanding and the attempt to say that man is related to the whole thing."

Steinbeck's most vivid works are mainly about people such as Ma Joad, who intuitively understands this interconnectedness, or Tom Joad, who discovers it. One of the most entertaining of these pilgrims is Junius Maltby of *The Pastures of Heaven* (1932). "The laziest and most ruminative of men," Maltby drifts into the valley and marries a widow who owns a good farm. After she dies in childbirth, leaving him the farm and a son, Robbie, Maltby lets fences fall and weeds overrun the property as he spends time educating Robbie in a surreal homeschooling program. Together they poke about the fields and thickets, wade in the stream and sit in a favorite sycamore tree talking about such things as water. "Water," Junius Maltby explains to Robbie, "is the seed of life. Of the three elements, water is the sperm, earth the womb and sunshine the mold of growth."

So instructed, Robbie becomes a knowledgeable and curious child. Nevertheless, neighbors regard Maltby as a foolish father and failed farmer. "Sometimes they hated him with the loathing busy people have for lazy ones. . . . No one in the valley ever realized that he was happy."

In *The Red Pony*, which came out in 1937, a colt is lovingly raised by Jody Tiflin, a rancher's young son. The little horse sickens, and early one morning Jody finds him down and dying in a pasture. Vultures have already begun to tear at his eyes. In a paroxysm of grief and rage, the boy catches one of the slow-moving scavengers by a wing. He picks up a stone and begins to beat it to a pulp. But "the red fearless eyes [of the vulture] still looked at him, impersonal and unafraid and detached."

Jody's father runs to the pasture and tries to comfort his son with reason. "Jody, the buzzard didn't kill the pony. Don't you know that?"

"I know it," Jody says wearily.

In *The Long Valley*, issued a year later, Mary Teller finds a piece of empty land on which she imagines in minute detail a house and, more importantly for her, a perfect garden. After five years, she meets Harry Teller, a man of sufficient means and, she thinks, patience, to allow her to do as she wants with the property. They are married, and

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after a time Mary does indeed create her dream garden. The centerpiece is a shallow ornamental pool to which, as Mary imagined they would, many birds come to drink. Watching them in the twilight of an evening, Mary is astonished and delighted to see a pure-white quail come to the pool. "She must be the queen of the quail," Mary reflects. "She makes every lovely thing that ever happened to me one thing."

During the past year or so, I have asked a number of Steinbeck readers about their favorite passages and episodes. I was surprised that several mentioned my own favorites:

"Over the grass at the roadside a land turtle crawled, turning aside for nothing. . . . His hard legs and yellow-nailed feet threshed slowly. . . . The barley beards slid off his shell, and the clover burrs fell on him and rolled to the ground. His horny beak was partly open, and his fierce, humorous eyes, under brows like fingernails, stared straight ahead."

Paroled from state prison, Tom Joad is walking home to the farm where his family sharecrops. Seeing the turtle, he picks it up. Later, meeting Jim Casy, a wandering preacher who has lost the Spirit, Joad explains that the turtle is a present for his younger brother.

When they get to the farm, they find it abandoned and partially destroyed. While wondering what to do next, Joad decides to release the turtle. Then he and the preacher watch it crawl away. "Where the hell you s'pose he's goin'?" said Joad. "I seen turtles all my life. They're always goin' someplace. They always seem to want to get there."

For me and, it turns out, for at least some others, that turtle keeps crawling along through John Steinbeck's whole shebang.

*Frequent contributor Bil Gilbert has written on topics ranging from wildlife rehabilitation to communing with spirits.*


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PEOPLE FILE

# Harp Hero

## ENDANGERED INSTRUMENTS TUG ONE MUSICIAN'S HEARTSTRINGS

BY STACEY YOUNG

AS THE CLOCK STRUCK TWO IN the Marlboro, Vermont, town meetinghouse, a crowd began to gather for an afternoon concert. Soon, the austere interior of that 19th-century landmark, flooded with light from tall windows, would fill to capacity. The audience, numbering among its ranks children and college students, thirty-somethings and graybeards, had been drawn by a singer and musician recognized as an American folk music legend. Her contribution to that rich heritage has proved, in the words of one music critic, "no less than mighty."

Many of the songs Margaret MacArthur performs—traditional tunes evoking the lives of ordinary women and men in the 18th and 19th centuries—soldiers and farmwives, apprentices and peddlers—would be lost to history had she not collected them. Even more remarkably, the instrument she plays this day, a cunningly scaled-down version of a harp, has also survived largely as a result of her singular passion for our collective musical past.

MacArthur, a handsome, silver-haired woman in her early 70s, champions a range of endangered musical species, rescuing both instruments and music from likely oblivion. Among the scores of rare and antique instruments she has acquired, one remarkable treasure is a diminutive 100-year-old harp-zither. It came her way in 1961, on a winter evening when providential forces mysteriously converged.

"It was terrible out there," she recalls, describing that night four decades ago. As a near blizzard swirled outside her mountainside farmhouse, MacArthur phoned Putney, Vermont, about a classified advertisement offering an Irish harp for sale. But the asking price was more than she could afford: $500.

Margaret MacArthur (at her farmhouse) conjures melodies of long-ago Vermont.

Just as she hung up the phone, MacArthur was surprised to hear a knock at the door. "I wondered," she remembers, "who would be crazy enough to come out on a night like this."

The intrepid visitor proved to be Win Landman, a local carpenter who had managed to drive over from his father's farm, some 30 miles away. Shaking off snow as he stamped inside, he drew an object out from be-

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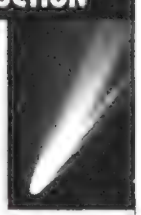

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John MacArthur restored this rare 100-year-old harp-zither abandoned in a barn.

hind his back. "My dad," he announced, "sent you a present." With a flourish, he presented MacArthur with a small harp.

Landman's family, it turned out, had spent the better part of several days clearing rubbish from a long-neglected corner of their barn. They had retrieved the instrument from where it hung on a post, nearly concealed under matted grapevines, and immediately recognized it as being of great rarity. So much so that a visit to MacArthur could not wait.

### AN EXQUISITE ARTIFACT

AS A FOLKSINGER WELL KNOWN throughout southern Vermont, MacArthur had traveled to many farmsteads in the region, recording songs handed down within rural families. Only a year or so before, she had transcribed lyrics sung by Landman's sister, Phoebe.

The harp that Win Landman gently laid out on MacArthur's kitchen table that bitter night turned out to be the only one of its kind known to exist. (Over time, a few more would turn up.) Though scarred by neglect, the 18-inch-high instrument was nevertheless an exquisite artifact. Its four-sided sound box had been fashioned of unpainted willow. No one could say exactly how or when this treasure had come to be discarded. It had lain silent for at least 50 years.

At the same time that MacArthur was devoting her considerable energies to saving an instrument disappearing from the American musical landscape, treasures in other parts of the world were also beginning to face extinction. As various as Siberian shamanic frame drums or the Central-Asian dotâr, some are hundreds of years old. "Certain sounds," laments Gage Averill, an ethnomusicologist and chair of the music department at New York University, "cannot be replaced."

Each of these instruments has need of a savior. The harp unearthed in that Vermont barn garnered two—MacArthur and her husband, John. As a professor of physics at Marlboro College as well as an accomplished amateur carpenter, John MacArthur was uniquely suited to take on the task of restoring the instrument.

"A lot of pieces were missing," he recalls. "There were just enough left so you could figure out the shape of what they were." John painstakingly traced the remnants of the sound box in order to cut out templates and recreate various structural elements.

Completion of the framing led to another challenge: configuring the strings and determining how to tune the instrument. Sitting at his battered wooden desk, John set down a series of equations, working from a formula for calculating the relationship between tension in the strings and pitch. "You had to invent a way to tune it," he explains, "because there was no way to tell how it was originally done."

Within a few weeks, John was able to present his wife with an instrument restored to life: reconstructed, polished, strung and tuned. When she sat down to pluck the strings, the sounds that floated into the room were akin to bells: delicate, clear and soaring.

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Music has bound the MacArthurs together since they met as students at the University of Chicago in 1946. When John played guitar for a dormitory sing-along, he heard an extraordinary voice rising from the crowd and waded through the throng to find Margaret. They married the following year.

The couple moved to Vermont in 1948, when John accepted his faculty appointment. Over the years, the post-and-beam farmhouse in which they raised five children has filled with music and the instruments that make it: a Pennsylvania Dutch zither, an early 20th-century dulcimer, a fiddle hand-hewn from a log.

### A FARM BOY'S LAMENT

THE MUSIC MACARTHUR CONJURES out of this cheerful clutter is rooted in an American past receding at an exponential pace. Now in Marlboro's meetinghouse, the audience, perched shoulder to shoulder on long wooden benches, settles into an attentive silence as MacArthur strikes up her harp. She opens with a traditional offering from the early 19th-century that describes the plight of a farm boy laboring as an indentured servant in a blacksmith's shop: "When I lived in Barnet I lived at my ease, / Now I live in Pucker Street a master to please."

Some of the songs she performs evoke the life and times of individuals, conferring a kind of immortality on figures as various as Charles Swift, who was nearly killed when his skittish horse bolted, or Helen Winslow, a woman facing death and longing to tap maple trees one more season. For some members of MacArthur's audience, these tunes are familiar favorites; for others, relative newcomers to the village, the folk songs are revelations, interpreted by a master of the form.

And for everyone, the pleasure of listening to an instrument plucked from oblivion is a simple gift. "I'd always wanted a harp," MacArthur muses, "but this one was my heart's desire."

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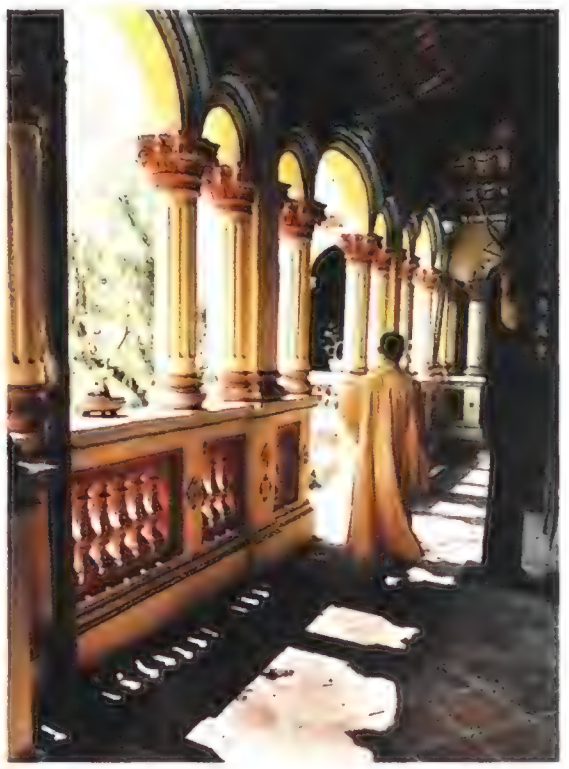
TAKING ISSUE

# Too Much?

## WHY DOES SMITHSONIAN FEEL THE NEED TO BE SO TOPICAL?

BY WENDY LESSER

*For this department, a distinguished writer is asked to read the magazine's articles before publication and to comment or elaborate on them or take issue with them.*



FitzGerald's Vietnam piece, says Lesser, reflects "an informed sense of history."

OK, CALL ME AN UNPATRIOTIC grump, but I don't see why everything we read these days has to have something to do with anthrax or Afghanistan. The September 11 attacks were a tragedy of shocking proportions for Americans, but they did not—contrary to the extreme statements made at the time—change our world forever in ways that will sever the future from the past. We readers are still pretty much the same people we were before, and we still have the same desire for diverse, touching, informative material of all sorts. So why do all our publications (and SMITHSONIAN is certainly not alone in this) feel the need to grind our noses in their own topicality, month after desperate month? And why can't a little of the connection-making be left up to the reader?

Take the article on Lewis Hine's photographs of skyscraper builders, which would have been a lovely way to comment obliquely on the power and threat inherent in tall buildings. I have long admired those photographs by Hine and was pleased to see a piece that reproduced and commemorated them. The reference to the Empire State Building in the first paragraph was enough to bring the World Trade Center to my mind. And the article could have ended beautifully, evocatively, with the phrase, "And we still do." Why, then, do we need that overstated, mawkish, subtlety-crushing final paragraph, which directs our thoughts into a channel they had already taken more naturally on their own?

The same was true, I felt, about the article on Louis Pasteur. Do we really need to hear about anthrax again? And though the deaths have been tragic, surely "anthrax devastation" is too strong a phrase for the hysterical scare we went through in the fall.

The Afghanistan photographs and text about Marco Polo have a slightly different problem. True, there is the inevitable topical connection; we would not be seeing these pictures, I suspect, had the United States not decided to wage war over that ground. But my problem with the piece stems

MARY CROSS

from another source: its patently exploitive exoticism. How are we ever going to understand or sympathize with a culture if we view it as a conglomeration of long beards, odd urinating habits and hidden *Arabian Nights* treasures? The need to see Afghanistan and other largely Muslim societies as part of the same world we inhabit is more pressing than it ever has been (if September 11 did not teach us that, what *did* it teach us?), and in the face of such urgency, I find the viewpoint of this piece distinctly disturbing. Afghanistan may not have changed much since Marco Polo's time, but—at least to judge by this piece—our own xenophobia hasn't improved much since the late 19th century.

The strongest article in the issue, as a piece of reportage and writing, is Frances FitzGerald's account of her latest trip to Vietnam. Like the Hine piece as it would have been without the final paragraph, this is a nice way of commenting indirectly on current events. We are once again engaged in a war with a distant culture that is explicitly antagonistic to our modernized, industrialized, highly capitalized society. Buried in the cleanly written, straightforward descriptions of FitzGerald's report is a subtly presented story about the conflict between two worlds of thought, each of which considers itself to be inarguably correct. But no position, as FitzGerald perceives, is inarguable, and her final paragraph, which alludes to "the traditional order reasserting itself in order to deal with what Westerners blithely call modernization," shows how clearly she understands this. If the articles mentioned above suffer from undue topicality, this piece benefits from something quite different: an informed sense of history.

Not every article in the issue touches on current events, and of course I enjoyed most the ones that don't. I liked reading about John Steinbeck's naturalism (though I can't forgive the omission of *East of Eden* in the list of his best novels). I enjoyed the dragonfly piece and the tiger piece for opposing reasons: the dragonfly one because it is written with self-conscious, self-mocking wit, the tiger one because it exhibits the kind of blinkered restriction of vision one doesn't usually find outside of Dickens' most obsessive characters. Yes, we can take a special kind of delight in the nonhuman natural world (as the dragonfly piece so delicately suggests), but this does not mean we have to slight the rights of humans. The tiger expert clearly felt that it was somehow unreasonable of the local residents to resent the tigers for eating up their relatives and neighbors; and though I could see that he did his best to overcome this perspective—the Tigers Rule perspective, you might call it—he distinctly failed to do so.

My favorite piece in the issue, finally, is the one on Mies van der Rohe and the mouse houses. Granted, I am the sort of person who says, "Really?" when somebody says, "Did you know they've taken the word 'gullible' out of the dictionary?" So it should not come as a huge surprise when I admit that I was well into the article before I realized it was too good to be true. The very language of the piece (the links between Mies and mice, the rhyme of mouse and house) should have tipped me off. But it wasn't until I found myself laughing out loud at the idea that "the mice refused to live in them" that I realized how clever Richard Liebmann-Smith had been. He had found something deeply, engagingly silly to say that was nonetheless a striking insight into Mies' architectural style—and he trusted me to figure out the connection. If only all the other pieces in this issue could have done as much.

*Wendy Lesser is the editor of* The Threepenny Review *and the author of five books. Her sixth,* Nothing Remains the Same: Rereading and Remembering, *is due out in May.*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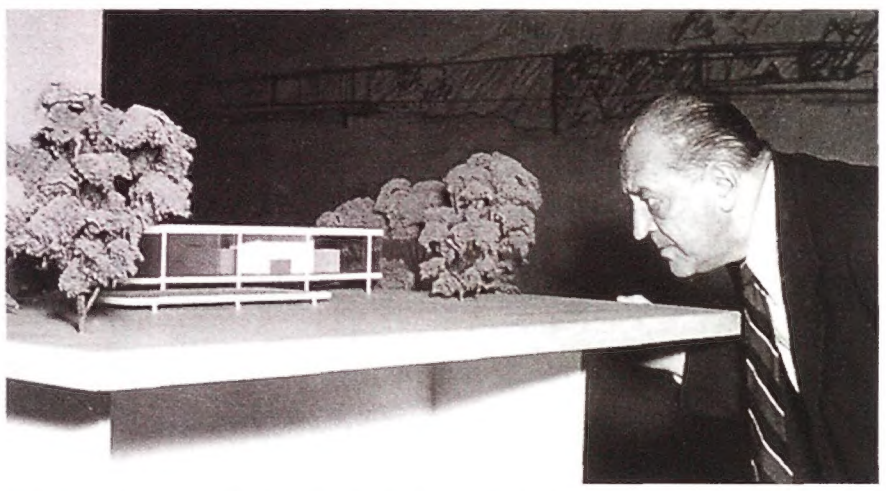
THE LAST PAGE

# Of Mies and Mice

A FABLE BY RICHARD LIEBMANN-SMITH

LUDWIG MIES VAN DER ROHE, THE APOSTLE OF modernism in architecture, towered above his contemporaries like a glass-and-steel skyscraper over a row of modest town houses, which explains why both the Museum of Modern Art and the Whitney Museum honored him with exhibitions last year. The shows neatly divided Mies' career into his European phase (pre-1937) and his subsequent American period (1938 to his death in 1969). But that division ignored an even more important, yet little-known, aspect of the architect's work: namely, that from the late 1930s on, Mies designed his buildings not for human beings but for mice.



When Mies (minding mice) made a model, he had Mickey in mind.

In 1933 the Nazis shut down the famous Bauhaus school of design, of which Mies was director. To cheer himself up, Mies spent his days and nights in the movie houses of Berlin, where he became obsessed with Walt Disney and Mickey Mouse. Soon he packed up his pencils and emigrated to the United States.

Upon arriving, Mies approached Disney with a weekend house he had designed for Mickey and Minnie. Disney was unimpressed. Disappointed, Mies settled in Chicago, where he was able to give free rein to his obsession.

He took as his ideal the humble shoebox, in which he had housed the beloved pet mice of his carefree boyhood days in the provincial city of Aachen. With its stark rectilinear silhouette and snug platform lid, this pristine form is often credited with having inspired the dictum Mies made famous, "less is more" (though what he actually said was "mouse's lair").

Not surprisingly, he chose glass, concrete and steel as materials for his mouse houses, both out of an abiding commitment to the Bauhaus style and the practical consideration that it would be easier to clean mouse droppings off glass than cardboard. What's more, Mies reasoned that mouse incisors would be no match against structural steel and reinforced concrete. His extensive use of glass also provided him with the prospect of endless hours of watching the little critters scurry around the mazelike interiors of his creations.

Mies turned on its head the conventional notion of a scale model. Rather than constructing tabletop versions of his projects and then blowing them up for human habitation, he created huge versions of his projects, which he then reduced to murine proportions. Thus, all of the famous Mies van der Rohe buildings we see today—the soaring Seagram Building in New York, the spare Lake Shore Drive apartments in Chicago, the serene Farnsworth House in Plano, Illinois—are, in fact, the overscale models of his true creations, the Mies mouse houses. Only by constructing and walking through these "mega-models," Mies believed, could he come to understand what his buildings would look and feel like to their ultimate tenants, the rodents. People, for this master builder, had come to serve as "guinea pigs for mice."

But Mies was never able to realize his dream of the ultimate mouse house. Night after night, the great architect would open the doors of his elegant creations to the rodents, only to discover the next morning that they refused to go in. For reasons only they could understand, the mice preferred to continue living under the floorboards of Mies' Chicago apartment, behind his refrigerator, or even, most disturbingly, in the real shoeboxes that cluttered his closets. Mies, who himself had never lived in one of his own buildings, was devastated. Until the end of his life, he worked desperately to find the magic formula that would keep the mice from decamping, frantically rearranging furniture, polishing facades, tweaking interior decor—all to no avail. "God is in the details," he is widely misquoted as having declared. His actual words were: "God is in the tails."

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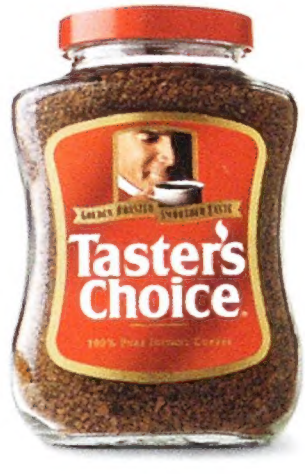


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